

SCHOLARLY BOOKS:

THEIR PRODUCTION, USE AND
EVALUATION IN SOUTH AFRICA TODAY



*Applying scientific thinking
in the service of society*



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The Academy of Science of South Africa (ASSAf) was inaugurated in May 1996 in the presence of President Nelson Mandela, the Patron of the launch of the Academy. It was formed in response to the need for an Academy of Science consonant with the dawn of democracy in South Africa: activist in its mission of using science for the benefit of society, with a mandate encompassing all fields of scientific enquiry in a seamless way, and including in its ranks the full diversity of South Africa's distinguished scientists. The Parliament of South Africa passed the Academy of Science of South Africa Act, *Act 67 in 2001*, which came into operation on 15 May 2002. This has made ASSAf the official Academy of Science of South Africa, recognised by government and representing South Africa in the international community of science academies.

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Date: August 2009

Preface

Robin Crewe
President, Academy of Science of South Africa.

The publication by scholars and scientists of their findings and ideas in journals and books is the lifeblood of the entire cooperative enterprise by which humans have established a common repository and legacy of knowledge identified by the specialised term as 'the literature'. The Academy of Science of South Africa was commissioned by the Department of Science and Technology to examine the production over the last two decades of articles by South African authors in national and international journals; the outcome was the release in March, 2006 of ASSAf's *Report on a Strategic Approach to Research Publishing in South Africa*. The Report recommended that the journals published in the country should be strengthened by enhancing their quality and improving their visibility worldwide. Many of the required steps have been taken or initiated since that time, steered by the Academy's Committee on Scholarly Publishing in South Africa and supported by a dedicated Unit established within the Academy office.

Journal articles represent over 90% of the publication 'outputs' of higher education institutions that are accredited by the Department of Education (now the Department of Higher Education and Training). The rest of the 'outputs' are scholarly books and published conference proceedings. Determining which items in the latter category should be accredited has proved difficult, despite the existence of criteria designed to assist the Evaluation Committee set up by the Department to make the judgments. The Department accordingly commissioned the Academy to undertake a consensus study of scholarly books published in and from South Africa. The Academy was pleased to do this, as the topic has a much wider significance in the realm generally called the 'National System of Innovation'. Many disciplines depend for their core conceptual frameworks on extended exploratory works that need to be of book-length, and the synthetic consolidation of knowledge in many fields is best captured in monographs and collected works written for that purpose by the most authoritative or inventive scholars. Books are thus a smaller segment of 'the literature', but play a critically important role in creating the 'big ideas'. Well-known examples from the past are Darwin's 20-years-in-the-writing *The Origin of the Species* and Marx's *Das Kapital*; more recent examples abound.



The field of scholarly book publishing is passing through a revolutionary period associated primarily with globalisation and developments in information technology. From limited access in libraries and bookshops, we are moving to a world where, in theory, every human could have unlimited open access to every published document. Huge barriers to this dream still remain, however.

The Panel chaired by Prof Wieland Gevers has completed its work, and its report has been carefully reviewed by international peers. The Academy Council is satisfied that the Report now released will meet the requirements of the commission from the national Department of Higher Education and Training (DoHET), and that the wider scholarly issues have been explored as fully as was possible. The eleven well-motivated recommendations will, however, if implemented, contribute actively to the scenarios of both the immediate and the more distant future, because they are designed to enhance the good features of high quality, relevance and creativity that enable books to make distinctive contributions to human knowledge and society, and to make the benefits more widely available, both here and globally.

Panel membership

Prof Belinda Bozzoli
Prof Wieland Gevers (Chair)
Dr Andrew M Kaniki

Prof Johan Muller
Mr Garry Rosenberg
Dr Nthabiseng Taole

Acknowledgements

The authors of this report would like to thank the President (Professor Robin Crewe) and other Members of the Council of the Academy of Science of South Africa, as well as the Executive Officer, Professor Roseanne Diab and the Chief Operating Officer, Dr Xola Mati, for their unstinting support of the work of the Panel. Ms Susan Veldsman and Mr Thabo Radebe of ASSAf's Scholarly Publishing Programme provided useful consultations and organisational assistance, as did Ms Andrea Meyer, the Communication Officer of the Academy.

The independent peer reviewers, Prof Lyn Yates (University of Melbourne, Australia), Prof John Scott (University of Plymouth, UK), and Prof Rory Ryan (University of Johannesburg), who provided their expert assessments and made valuable suggestions, are warmly thanked.

The previous Minister of Science of Technology, Dr Mosibudi Mangena, encouraged us in our work at all times. A special vote of thanks also goes to Dr Bethuel Sehlapelo and his successor, Prof Yonah Seleti, the Acting Group Executive: Human Capital and Development of the Department of Science and Technology, for approving and funding the project of which this Report is a key component.

We also express our warm gratitude to Dr Molapo Qhobela, Mr Mahlubi Mabizela and Dr Genevieve Simpson of the Department of Higher Education and Training (DoHET), and to Dr Daisy Selematsela of the National Research Foundation, for their assistance whenever asked, and for taking part in consultations as key stakeholders.

Thanks are due to Professor Johann Mouton and his colleagues at the Centre for Research in Science and Technology (CREST) at the University of Stellenbosch, who produced a commissioned sub-report which was extremely helpful to the Panel in getting to grips with relevant information and contextual frameworks in the field.

The authors wish to also express their thanks to members of the Publishers Association of South Africa (PASA) and the National Scholarly Editors' Forum (NSEF) for their valuable consultative inputs.

Lastly, Kraft Information Design is thanked for producing the Report in both its printed and pdf versions.



This Report is the work of all the Panelists, and all have 'signed off' on its approach, findings and recommendations. The chair would like warmly to thank all the other members of the Panel for their enthusiasm and valuable contributions. He also thanks Dr Nthabiseng Taole, who doubled as Panel member and study Director, for a job very well done.

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Executive summary:

Recommendations at a glance

Recommendation No 1: that the publishing (or co-publishing) of high-quality scholarly books (monographs and collected works) in South Africa and elsewhere should be strongly encouraged and supported because of the contributions that the kinds of 'deep' scholarship made possible by such publications can render to building the reputation and increasing the impact of the research system of the country. By the same token, writing books or contributing to collected works that are published by prominent publishers elsewhere is manifestly also to be encouraged and supported.

(The rationale for this recommendation has been systematically developed in this Report. Ultimately, it has to do with the urgent need for leadership in research and scholarship, expressed by the ability to generate highly authoritative, fully evidenced, and well-reasoned treatments of major topics of central concern to the country's people. Having large numbers of qualified and active researchers and scholars in South Africa, drawn from all its members of its population, is an important target of a programme to generate the 'human capital' necessary to bring prosperity to all, and to address major national challenges. There must, however, be scholars/scientists who can 'think big' and provide the powerful intellectual driving force needed to maximise the benefits of such human development. The ability to achieve high-level new syntheses in book form is one of the most direct expressions of such a leadership cadre. In addition, the generation of collected works through cooperative work by senior scholars specialised in different aspects of problem areas is an effective engine of practical collaboration and creativity.)

Recommendation No 2: that a national Scholarly Book Publishers' Forum should be established under the auspices of the Academy as a 'companion' to the already existing National Scholarly Editors' Forum relating to journals published in South Africa.

(The existence of a National Scholarly Book Publishers' Forum run under the auspices of ASSAf would provide a useful tool cooperatively to approach the systemic issues addressed in this Report. Terms of reference for such a Forum could be modelled on those already accepted for the

Editors' Forum, and aligned with existing organisations such as the Publishers' Association of South Africa, PASA.)

Recommendation No 3: that some form of organised and sustainable national book publishing support system be established to create a climate in which book-publishing decisions can be freed of purely commercial considerations. This could be linked to a system of regionalised and/or partially centralised consortial infrastructure to support the publishing of scholarly books and journals, which could include components for distribution and logistical infrastructure, co-publishing or other platforms for international marketing and promotion, and a national internet platform for open access publications. Alignment with library and repository functions at institutional and other levels could enhance the development of new kinds of organisations centrally focused on the core mission of scholarship.

(One useful, micro-level element of a new approach to book publishing could be an institutional system in which a given and generally agreed percentage of production expenditure is earmarked for the internal subsidisation of those publishing costs of scholarly books produced by scholars on the staff that are not legitimately coverable by commercial publishers. An additional or alternative systemic approach, based on the system in Canada, could be the setting up of a national fund to subvent the publishing of scholarly books. The recommended third approach is to strengthen the existing scholarly presses by setting up consortia, well-developed forms of regional and national collaboration, as a highly appropriate response to meeting cost pressures and small markets, creating economies of scale and making it easier to focus on the core role of scholarly publishing. Higher education institutions need to reflect deeply on the true role of university presses in disseminating distinctive products of high-level scholarship.)

Recommendation No 4: that the principle of maximising open access, already recommended by the Academy for scholarly journals, be extended as far as possible (with careful attention to sustainable business models) to books published (or co-published) in South Africa, with the adoption of formats and technology platforms compatible with bibliometric requirements such as citation indexing and information-rich online features.

(Experience, for example, that of the HSRC Press in South Africa, has shown that online availability enhances the marketing and sales of print

copies of scholarly materials. If business models demonstrably prevent moving in this direction, dual print-plus-electronic publishing is an option that enhances access on the part of (paying) users, associated with, or following, online browsing of sections of the relevant indexes and even text. The recent JISC Report, based on the UK but applicable elsewhere, has shown how extensive systemic savings can be achieved through the replacement of the currently still prevailing subscription and toll-access models by models with open access features. Citation indexing is only compatible with print-only publishing of books if publishers provide electronic access to their materials to indexing operators. The growing importance of institutional repositories (in which only e-versions of books or book chapters can be deposited) and the increasingly common requirement of both public and private funders for placement by authors of publications in open access journals or repositories, point inexorably to a future model for the publishing of scholarly books where the dual mode of 'pay-for-print' and 'see for free' will be the standard. It appears that this is compatible with enhanced, or at least viable, commercial publishing.)

Recommendation No 5: that attempts should be made to obtain the agreement of book publishers in South Africa to follow a general quality assurance system captured as guidelines based on the recommendations contained in this Report. This should be based on the typology of scholarly books proposed in Chapter 5 of this Report, and involve a clear separation of overall publishing considerations in the marketplace from the complex collecting/editing functions of editorial panels/boards, but with additional independent and individual review of free-standing book chapters by appropriate peers in cases where the members of editorial panels are unable to provide this important function. This could be linked to a form of service-level agreement to which publishers would be required to adhere should they wish to benefit from the above-proposed subsidy system, or from the present research outputs accreditation model.

(The biggest quality assurance problem encountered in the committee-based accreditation process used by the Department of Higher Education and Training (DoHET) has been the issue of whether the 'peer review' required under policy has been exercised by one or more editorial panel or commissioning editors, whether this has been exercised in respect of individual chapters and/or the whole collected work, and whether the person(s) concerned are true, disinterested peers in either context. Our recommendation is aimed at providing a stimulus for best

practice that arises from greater clarity as to the nature and objectives of scholarly books, as described in this Report. The measures available to enhance the effectiveness and efficiency of peer review described in this Chapter 3 should also be adopted in a general agenda of producing approximate equivalence between the quality assurance systems of journals and those used for books; the most important of these are blind review (at least with respect to author/institution identity in the case of the reviewers), multiplicity of reviewers and their independent operation, an emphasis on improvement of submissions before publication, and greater cumulative acknowledgment of the voluntary contributions of good reviewers.)

Recommendation No 6: that apart from the requirement for independent peer review, and the application of the typological criteria proposed in Chapter 5, public policy in respect of the publication of scholarly books should also be based on an additional set of parameters:

- No systematic distinction should be made between scholarly books published or co-published in South Africa and those published in foreign countries;
- Doctoral dissertations should not be categorised as 'scholarly books' unless they fully conform to one of the type categories proposed in Chapter 5;
- 'Advanced textbooks' or 'professional handbooks' should also not be categorised as scholarly books unless they fully conform to one of these type categories;
- General (or undergraduate) textbooks should not be regarded as scholarly books;
- The minimum size/scope of a scholarly book should be expressed in words and not in (final printed) pages; a threshold of 60 000 words is proposed, subject to the discretion of legitimately identifying exceptions where an extended analysis or argument and its evidential development has been achieved in a smaller word-frame;
- The weighting of a book relative to a journal article should be upgraded, to regard an entire book of at least 180 000 words as having a value 10 times that of a single journal article, one of 120 000 words as having 7.5 times that value, and 60 000, five times, in proper recognition of the special scholarly contribution of book-based publications that conform to one of the four proposed types;
- The rules of fractional apportionment of earned sub-units to the (South African) institutions of contributing authors should be applied as for journal articles;
- The approach to scholarly books taken in this Report could usefully be taken as a point of departure in any approach to the evaluation of conference proceedings.

(The case for this set of policy-directed recommendations has been made in the various chapters of this Report, drawing partly on the annual reports of the Research Outputs Evaluation Committee of the Department of Higher Education and Training (DoHET) and partly on the examination conducted by the Panel itself. As in the case of the recommendations made for journals in the preceding ASSAf Report, our recommendation presented above makes the case of regarding local and 'international' scholarly books as having equal merit, and other reasons have been presented elsewhere in this Report. While doctoral dissertations are by their very nature monographic, they are unlikely to meet the proposed descriptor of such a typically senior type of scholarly book, yet the above proposal allows this to be recognised in exceptional circumstances. The proposed typology for scholarly books may be useful in distinguishing between some 'advanced textbooks/handbooks' in that the requirement for an original and extended 'new synthesis' in a work at hand will need to be satisfied in order for it to be categorised as being scholarly rather than purely education- or training-directed, which is what undergraduate textbooks are considered as being.

The issue of the minimum length of a book under public policy is a vexed one. Our suggested inclusion threshold parameter of 60 000 words is based on the explicit incorporation in the recommended typology of scholarly books of the notion of an 'extended' study or the exploration of a 'large-scale' topic in such publications. Exceptions can and do occur but will be recognisable in context. This begs the question as to where peer-reviewed scholarly reports which are not published in journals should be placed in public policy terms; we cannot suggest a solution for this at this time, as it is not strictly in our remit. Attention will, nevertheless, have to be given to this anomaly.

The related issue of the weighting of books in relation to journals can also be dealt with in terms of the recommended typological categorisation of scholarly books, and our proposals for their quality assurance. Our proposal is non-linear because of the 'threshold effect' of an extended scholarly work, and the incremental effect of greater length beyond that threshold. Since chapters in the collected works will be required to be individually reviewed by appropriate peers, as well as subjected to review as 'components of the whole' by editors and (in one type) co-authors, there is no reason to see them as having intrinsically less value than individual journal articles. The Panel, nevertheless, prefers the idea, consonant with its general view of books as being single, major contributions to the literature, where chapters are parts (fractions) of whole books, and do not intrinsically have a 'life of their own'.

We believe that the typological approach to scholarly books developed in this Report can readily be used as a starting point for an approach to the evaluation of scholarly conference proceedings; there is convergence in the practice of intense workshops leading to the eventual production of scholarly collected works, and conferences which are so designed and organised that they lead to a book of conference proceedings that can conform to the third or fourth type of scholarly monograph described above.

It is also clear that there needs to be transparency on the part of the Department of Higher Education and Training (DoHET) in respect of its assessment of submitted books and collected works, at minimum at the level of feedback to institutions and authors.)

Recommendation No 7: that the editors of South African journals should endeavour to commission post-publication (peer) reviews of any scholarly books published in their areas of focus in South Africa, as soon as possible after their publication.

(It is evident that as much connection as possible between the journal- and book-subsystems of the scholarly publishing spheres should be sought, to maximise the beneficial impacts of the two complementary forms of knowledge dissemination).

Recommendation No 8: that four categories of scholarly books/collected works should be regarded as being both valid and important part of the (scholarly) 'literature', in terms of best practice amongst researchers and scholars, and national policies such as the Department of Higher Education and Training's (DoHET) accreditation system of research outputs produced by education institutions, and the criteria for grant-making by the National Research Foundation:

- **An extensive and scholarly treatment of a topic by one or more (few) scholars, largely comprising significant and original (own) research, embedded in relevant literature;**
- **An extensive scholarly exposition by one or more (few) scholars of the available literature on a topic, from a position of demonstrable authority, which makes a significant conceptual or empirical synthesis that advances scholarship;**
- **A collected work (book), assembled by one or more (usually many) scholars in a field(s) or group of related fields, which as a planned group of individually peer-reviewed chapters by appropriately qualified authors generates a new conceptual synthesis that advances scholarship; and**

- **A collective work (book), assembled by one or more (usually many) scholars in a number of related fields, in which the individual authors have noted and reviewed each other's chapters and adapted their contributions to generate a new conceptual synthesis that significantly advances scholarship.**

(These categories are described and motivated in the last Chapter of this Report, and have been selected because they clearly identify the main and distinct contribution of book-form publications to the 'literature' of scholarship and science, which journals are able to provide only by departing from their own special nature as periodicals featuring articles. The descriptors are normative in character, in that they encourage the kinds of best-practice that will greatly enhance quality, and generate benefits often lost in less aspirational models of book publishing. They will also provide clear demarcators between scholarly books and books serving other purposes, audiences and markets, especially useful in addressing long-standing problems encountered in the accreditation of research outputs, in recognising advanced scholarship in institutional settings, and in measuring the productivity of the innovation system through the use of valid indicators.)

Recommendation No 9: that the possibly beneficial effects of the prescribed and unprescribed use of scholarly books in both under- and postgraduate teaching and learning be studied, and the lessons learnt applied in general higher educational practice.

(The prescription of books as cover-to-cover reading materials in selected courses may enhance 'deep learning' and simultaneously foster the productive acquisition of reading habits lasting a lifetime, leading to the emergence of the kinds of scholars and scientists who understand the evolution of big ideas, and may therefore generate some of their own.)

Recommendation No 10: that a wide-ranging project be initiated by the national Department of Higher Education and Training (DoHET) and the provincial education authorities that will sharply increase the exposure of teachers, teachers-in-training and learners to locally published scholarly books that present some of the country's foremost scientific work in accessible form, and are effectively linked to the media.

(One of the most cogent reasons for publishing scholarly books locally is the opportunity beneficially to reach the next generation in ways that are not possible with expensive international materials; this needs to be planned in partnership mode, however, and will not happen without strong top-down sponsorship and appropriate resourcing.)

Recommendation No 11: that the findings and recommendations contained in this Report be presented to key stakeholders in a series of consultative workshops, and that the outcomes and the impact of the publication of the Report be evaluated in four years time.

(This Report is making consensus recommendations that are supported by evidence and arguments presented in the various chapters. We are aware of the scholarly seniority of many stakeholders, the fluidity of the sector in commercial/technological terms, and the conviction of the authors that only consultative processes are likely to achieve the adoption of their proposals or their further exploration. We believe the present Report provides a necessary but obviously insufficient basis for important reforms and considerable advancement of South Africa's research potential and actual performance, but joint downstream efforts will be needed, at both the widely distributed knowledge production and more focused governance levels.)

Summary of the Chapters

The 2006 ASSAf Report on a *Strategic Approach to Research Publishing in South Africa* dealt comprehensively with research outputs published in and from the country in scholarly journals. The present Report addresses the much less unitary, clear-cut and codified world of book publishing, in and from South Africa. It seeks to explore the special scholarly virtues of these non-periodical works, and the contributions that they make to 'the literature' and to the general advancement of scholarship and science. Above all, it sets out to do this in a form that will be useful to practitioners and policy-makers alike, answering as best possible the many questions that have arisen in relation to such issues as optimal research practice, training, planning and resourcing. The immediate prompt was a request from the former Department of Education (DoE), now the Department of Higher Education and Training (DoHET), for a follow-up consensus study by the Academy of books and book chapters published in and from South Africa, in order to inform policy on the recognition of research outputs by higher education institutions – implementation of the Regulations promulgated in 2004 in this sector have been associated with numerous problems at the operational level, particularly concerning the comparison of such outputs with journal articles, and the heterogeneity of the materials presented for accreditation.

The scholarly books study aimed at answering the following questions:

- How closely do (scholarly) book chapters correspond to original, peer-reviewed, editorially selected journal articles as 'research outputs' as defined in the Department of Higher Education and Training (DoHET) policy?
- How much 're-publication' or 'pre-publication' of substantive journal article content occurs in book chapters? (Do many book chapters infringe the principle of originality/uniqueness fundamental to good order in 'the literature'?)
- How does peer review as typically carried out in the case of books differ from 'gold standard' peer review methodology used by journal editors? (In other words, does peer review of books and/or book chapters have the same objectives, and does it use the same fundamental criteria, as peer reviewing of scholarly journals?)

- How well do books achieve the defined purposes of research outputs in terms of impact analysis e.g. citation analysis; book reviews; sales and re-printings; any other measures?
- How much should books and book chapters be 'weighted' in terms of the Department of Higher Education and Training (DoHET) policy framework? (Journal article = 1.0) (The question here is basically one of weighting the significance of the different kinds of outputs in the hope of an apples-versus-apples comparison).
- How are the 'target audiences' of scholarly books to be identified, as Department of Higher Education and Training (DoHET) policy is that the target of accredited book chapters should be peers and 'other knowledge producers'?
- How many book chapters are really not 'original, fully described additions to existing knowledge' but rather authoritative analyses, syntheses, and/or consolidations, in effect or potentially assisting others to map out new routes to new knowledge? (This requires evaluation of the increasing use of authoritative reviews in journals, often as groups in symposium mode, and the issue of the 'size of the canvas' on which one or more scholars may wish cooperatively or synergistically to paint significant conceptual advances in an area of a discipline).
- Does online publishing of books (already) enhance dissemination and access, and is the (print) book publishing route a less effective form of knowledge dissemination relative to the journal route?
- How do different disciplinary areas compare in their use of books as opposed to journals, as selected dissemination routes? (And why do they so differ, in terms of the nature and speed of advancement of knowledge?)
- What are the time delays in book as opposed to journal publishing?
- What are the trends for the future role(s) of books as vehicles for the dissemination of scholarly knowledge? (Noting that most academic libraries have quite dramatically decreased the ratio of 'monographs' to 'periodicals' they have purchased over the last two decades.)

Research publishing in books fit into the goal of helping to build a robust national system of innovation which contributes materially to the sustainable prosperity of all South Africa's people, in a scenario where large numbers of lively, enquiring and enterprising people have scope for productive careers and involvement as leaders in science-based efforts to promote the development of the whole nation's skills and resources.



1 SCHOLARLY BOOKS IN THE TWENTY-FIRST CENTURY

- 1.1 The Consensus Panel has cooperatively addressed problems which concern the production, use and evaluation of scholarly books in South Africa, which in a general sense have four dimensions:
- a There is an entirely new world of publishing emerging as a result of globalisation and the electronic revolution, which we need to understand and appreciate in broad terms.
 - b In this context, we need to examine and assess the nature and significance of the 'scholarly book' – what it is, whether it is important, and why, who makes use of it and to what extent.
 - c Our publishing industry has strengths and weaknesses in this respect, which we need to understand and address.
 - d Our mechanisms for evaluating the research contained in these books are weak, out of date and inconsistent, and need to be revamped.

Against this background, their report examines each of these dimensions historically and in the present moment, and makes recommendations in each area which may guide our intellectual and publishing community towards a new appreciation and enhanced utilisation of the scholarly book, its production, consumption and evaluation.

- 1.2 The first Chapter examines what scholarly books are, how we define them, how they differ from other kinds of books, and what their meaning and significance is in the 21st century. This is done against the background of the worldwide publishing industry's particular situation at present, and the rise and influence of electronic publishing.
- 1.3 The preceding ASSAf Report on research publications in scholarly journals made ten recommendations designed to improve the quality and international profile of South African scholarly journals. In essence, they amounted to a strong case for indigenous publishing provided it was of high quality as promoted by the acceptance and adoption of a national code of best practice in editing and peer review, and by a peer review-based system of quality assurance for journals; increased visibility through open access by both the 'Green Route' (free online, full-text publishing) and 'Gold Route' (institutional repositories, harvestable through planned in-



teroperability); enhanced use in teaching, training and public information at all levels; and development of scientometric approaches appropriate for developing countries such as our own.

- 1.4 A monograph may be operationally defined as a non-fiction scholarly book, or a detailed, separate and documented treatise on a single subject, or class of subjects, or on one person, or a group of related subjects, usually written by one person.
- 1.5 A collected work, by contrast, may be defined as a book of originally separate works, such as a collection of research essays, poems etc, by an author (or different authors), selected for publication and brought together in one edited volume by an editor(s), who has/have to ensure that the individual contributions are of the highest quality and coherence, while the result is a work that is greater than the sum of its individual parts.
- 1.6 Publishing of scholarly books is carried out on a large scale by commercial publishers and university presses, and on a small scale by individual authors ('self-publishing'), and the so-called vanity presses.
- 1.7 International trends in the production and use of scholarly books include declining numbers of published monographs, increasing costs and severe financial pressures, diminished provision in library budgets seeking to cope with rampant inflation in journal acquisition costs, and an increasing market-led drift to textbooks and reference works.
- 1.8 Publishers' responses to these problems have included reduction of production costs (through process streamlining, technological innovations, reduction of royalties, smaller print runs, paperbacks instead of cloth, etc), price increases, changed publishing strategies (greater selectivity in title acquisitions and list-building, specialisation, migration of publishing focus to better-selling areas like textbooks or trade books, and exiting from the scholarly side of business), enhanced use of diversified marketing approaches; and diversification into joint print and online models, often involving free internet 'sampling' of digital text with the option of full-text purchase, in or out of partnership with online retailers.
- 1.9 A new era has arrived in authoring, publishing and reading scholarly texts, largely arising from the 'digital revolution', and associ-



ated with a number of simultaneous revolutions: A personal revolution empowering individuals to access, analyse and control information; an electronic revolution associated with the creation of vast amounts of information in digital format; a network revolution for storage and transmission of information; an authorship revolution whereby individuals can easily reach any number of target readers; an intellectual property revolution greatly complexifying issues in an already contentious area; an information-commodifying revolution; and a far-reaching knowledge-management revolution.

- 1.10 Four major inter-connected trends are driving current and future developments in the field: the concentration of publishing activity in a few multinational companies; a similar concentration of book-selling in a small number of multinational companies; globalisation of markets and dominance of English; and the rapid, often sequential introduction of new technologies. Access to information is one dominant issue, focused on the notion of free online (open) access through the World Wide Web, while the other is changed delivery through the possible replacement of printed books by e-readers of advanced design.
- 1.11 The recent Joint Information Systems Committee (JISC) Report, based on the UK but applicable elsewhere, has directly shown how replacement of the currently prevailing subscription and toll access models by open access models would produce extensive systemic savings, and release very significant amounts of money for research and related developmental activities.
- 1.12 Book history has grown as a new discipline, exploring topics such as the multi-centric development of writing as a transition from orality in human societies; technological shifts leading to the printing press; massification; and copyright. An important area involves the inter-dependent roles of authors, authorship and authorial authority, leading to the idea of books as a platform for the development of big ideas by individuals, in which the works of past or contemporary authors are critiqued and woven into new textures and concepts, displaying mastery of the relevant field, and authority in or over it. The place of publishers, printers, agents and booksellers is increasingly interposed between scholar authors and scholar readers, allowing the place of readers themselves to be analysed in new, much deeper ways. The power of good books is their ability to become part-and-parcel of diverse mental worlds, including the summative world of the accumulating scholarly 'literature'.

1.13 Recommendations arising from this Chapter:

The Panel recommends that the publishing (or co-publishing) of high-quality scholarly books (monographs and collected works) in South Africa and elsewhere should be strongly encouraged and supported because of the contributions that the kinds of 'deep' scholarship made possible by such publications can render to building the reputation and increasing the impact of the research system of the country. By the same token, writing books or contributing to collected works that are published by prominent publishers elsewhere is manifestly also to be encouraged and supported.

(Part of the rationale for this recommendation has been developed in this Chapter, and will be supported in later sections of the Report. Ultimately, the publication of scholarly books within and from the country has to do with the urgent need for leadership in research and scholarship, expressed by the ability to generate highly authoritative, fully evidenced, and well-reasoned treatments of major topics of central concern to the country's people. Having large numbers of qualified and active researchers and scholars in South Africa, drawn from all its members of its population, is an important target of a programme to generate the 'human capital' necessary to bring prosperity to all, and to address major national challenges. There must, however, be scholars/scientists who can 'think big' and provide the powerful intellectual driving force needed to maximise the benefits of such human development. The ability to achieve high-level new syntheses in book form is one of the most direct expressions of such a leadership cadre. In addition, the generation of collected works through cooperative work by senior scholars specialised in different aspects of problem areas is an effective engine of practical collaboration and creativity.)

2 BACKGROUND ON SCHOLARLY BOOKS AND PUBLISHING IN AFRICA/SOUTH AFRICA

In this Chapter, South African scholarly book publishing is examined in an international context, both with respect to Africa as a whole, and more widely. Its nature is elucidated, and its strengths and weaknesses explored, using information provided by a commissioned report produced by CREST at the University of Stellenbosch. The question is asked whether it is sufficiently well-developed, and whether it is integrated into 'the literature' locally and internationally.



- 2.1 Africa imports the great majority of its books, mostly from Europe and the United States, and produces only 2% of the world's books whilst accounting for 12% of world population. The limited overall book market on the continent is also negatively influenced by high levels of taxation (duties and sales taxes), poorly organised retail systems, first-language diversity, and sectoral inflationary pressures.
- 2.2 Despite this negative picture, the African publishing industry as a whole is showing growth not only in the textbook-publishing sphere but also in general book output. In 1997, South Africa had 120 active publishers and generated 2500 new titles, compared with Malawi, for example, with a total of 13 active publishers and 65 new titles. The leading publishers of academic books, novels and children books in South Africa, Kenya and Nigeria now also offer scientific books which were once a scarce 'commodity'.
- 2.3 Scholarly publishing is only able to flourish in a context where there is a sustained and robust production of knowledge. Unfortunately, it is now well-known that Africa's scientific output, as measured by articles in the ISI databases, has been steadily declining over the recent past, both in absolute terms and as share of world output. The 68 945 research articles published in ISI-indexed journals with at least one African address between 2000 and 2004 represented only 1.8% of world output, with India producing 2.4% and South America 3.5%; just over 50% of the total emanated from just two countries, South Africa and Egypt.⁴ Only 0.1% of patents registered at the U S Patents Office originated in Africa, with 88% coming from South Africa.
- 2.4 South Africa has the largest publishing industry in Africa, and academic publishing (only 0.75% of which comprises scholarly publishing) accounts for about 16% of the industry's turnover, representing an annual turnover of about R408 million. The Publishers' Association of South Africa (PASA) considers only a few local publishers to be scholarly publishers: University of Cape Town Press, University of KwaZulu-Natal Press, UNISA Press, HSRC Press and Witwatersrand University Press, as well as Juta, Oxford University Press SA and Cambridge University Press, Africa branch. Scholarly books require a significantly higher risk investment than other types of academic books, as 'economies of scale' are unfavourable. The increase in co-publishing involving both a local and an 'international' publisher takes account of the combined



advantages of local promotion and interest, and of international partnering with publishers who can both enhance the basic quality of a book and augment sales (and impact) outside the country.

- 2.5 The Panel writing this Report commissioned the Centre for Research on Science and Technology (CREST) at the University of Stellenbosch to undertake a study that would provide information on the status of scholarly book publishing in the country. Data sources were the CREST survey on knowledge utilisation undertaken for NACI (2002), the CREST survey of journal and book authors (2007), a new CREST survey of South African-based publishers (2007), the CREST database of 389 scholarly monographs and 1 333 collected works published in South Africa from 2001 to 2006 (also containing details of 308 published reviews of the monographs and citation figures in Google Scholar relating to them), and SA Knowledgebase (a comprehensive database of DoHET-accredited research output in South Africa, developed by CREST).

2.6 Recommendations arising from this Chapter

The Panel recommends that a National Scholarly Book Publishers' Forum should be established under the auspices of the Academy as a 'companion' to the already existing National Scholarly Editors' Forum relating to journals published in South Africa.

(The existence of a National Scholarly Book Publishers' Forum run under the auspices of ASSAf would provide a useful tool cooperatively to approach the systemic issues addressed in this Report. Terms of reference for such a Forum could be modelled on those already accepted for the Editors' Forum, and aligned with existing organisations such as the Publishers' Association of South Africa, PASA.)

It is further recommended that some form of organised and sustainable national book publishing support system be established to create a climate in which book-publishing decisions can be freed of purely commercial considerations. This could be linked to a system of regionalised and/or partially centralised consortial infrastructure to support the publishing of scholarly books and journals, which could include components for distribution and logistical infrastructure, co-publishing or other platforms for international marketing and promotion, and a national internet platform for open access publications. Alignment with library and repository functions at institutional and other levels could enhance the development of new kinds of organisations centrally focused on the core mission of scholarship.



(One useful, micro-level element of a new approach to book publishing could be an institutional system in which a given and generally agreed percentage of production expenditure is earmarked for the internal subsidisation of those publishing costs of scholarly books produced by scholars on the staff that are not legitimately coverable by commercial publishers. An additional or alternative systemic approach, based on the system in Canada, could be the setting up of a national fund to subvent the publishing of scholarly books. The recommended third approach is to strengthen the existing scholarly presses by setting up consortia, well-developed forms of regional and national collaboration, as a highly appropriate response to meeting cost pressures and small markets, creating economies of scale and making it easier to focus on the core role of scholarly publishing. Higher education institutions need to reflect deeply on the true role of university presses in disseminating distinctive products of high-level scholarship.)

The Panel also recommends that the principle of maximising open access, already recommended by the Academy for scholarly journals, be extended as far as possible (and with careful attention to sustainable business models) to books published (or co-published) in South Africa, with the adoption of formats and technology platforms compatible with bibliometric requirements such as citation indexing and information-rich online features.

(Experience, for example, that of the HSRC Press in South Africa, has shown that online availability may significantly enhance the marketing and sales of print copies of scholarly materials. If business models demonstrably prevent moving in this direction, dual print-plus-electronic publishing is an option that enhances access on the part of (paying) users, associated with, or following, online browsing of sections of the relevant indexes and even text. Citation indexing is only compatible with print-only publishing of books if publishers provide electronic access to their materials to indexing operators. The growing importance of institutional repositories (in which only e-versions of books or book chapters can be deposited) and the increasingly common requirement of both public and private funders for placement by authors of publications in open access journals or repositories, point inexorably to a future model for the publishing of scholarly books where the dual mode of 'pay-for-print' and 'see for free' will be the standard. It appears that this is compatible with enhanced, or at least viable, commercial publishing.



3 THE USE OF SCHOLARLY BOOKS IN ACADEME

- 3.1 In this Chapter, we examine a number of aspects of how academics see scholarly books. Why is peer review so important? How highly are books valued and how much are they cited? How are they rated in comparison with journal articles, and to whom are they addressed? How are scholarly books distinguished from other books?

The answers to these questions are pivotal to the development of a deep research culture, and to optimal policy formulation for the national system of innovation.

- 3.2 The scholarly publication system, represented by what is called by countless practitioners 'the literature', is essentially self-regulated by the practice of peer review allied with the discretion exercised by editors. The special, additional 'peer review' roles of editors in the publication of books and collected works has a special focus in this Report. In general, peer review is regarded as a flawed, but best-available guarantee of quality in the scholarly literature, with adherence to the best practice of independent, multiple peer review constituting the best approach.
- 3.3 Peer review issues more pertinent to books than to journals include the examination of the purposes of publication which go beyond the basic issue of approving and improving additions to 'the literature'. The complex modes of peer review involved in producing multi-author books and collected works generally include 'standard' independent peer review as described and discussed above, but often go beyond it to move into the domains of editors, in order to embrace issues such as initial author selection, reciprocal reviews of their contributions between different authors aimed at generating new syntheses, aggregate reviews of chapter sets by authoritative editors to assess the achievement, or not, of new syntheses, and even positioning in the marketplace based on scholarly rather than book-trade considerations. All of these conform to what is meant by scholarly peer review, and frequently demand considerably more time, effort and disciplinary maturity than do individual journal articles.
- 3.4 An important form of peer review unique to books and collected works is the formal post-publication review usually placed in the open domain in journals, and often also in lay media such as newspapers and magazines. The gist and tone of such published



reviews are significant determinants of the sales of the works concerned, and therefore of their dissemination in the scholarly community and the desirable discourse associated with it.

- 3.5 Pre-publication quality assessment by South African book publishers usually, but by no means always, consists of the use of selected, multiple external reviewers to assess the suitability and quality of the content of single-authored or co-authored scholarly books and edited/collected works. Established publishers have structures in place to help them to find suitably qualified external reviewers, often involving a systemic editorial board or publications committee, and occasionally an *ad hoc* panel of editors for a particular collected work. Publishers seem to be sensitive to the possibility that an edited work can be a mere compilation and re-publication of existing work, and guard against this practice.
- 3.6 The Panel is of the opinion that quality assurance in book publishing, especially in the case of collected works, requires the three levels of examination to be clearly separated and addressed. The overall publishing decision is based on a mix of the work's market positioning and intrinsic quality. The latter depends on the other two levels of assurance: the collecting, editing and coherence-making function usually exercised by one or more editors and/or an editorial board, and the independent peer review of individual chapters. Where the editor(s) or editorial board members can legitimately carry out chapter-specific, independent peer review (for example in works with a strong disciplinary focus), there is generally no need for outside review, as long as the two levels are addressed separately in the processes and records leading to the publishing decision at the first level. Where these persons cannot adequately provide journal-type peer assessment at the individual chapter level (for example in works that bring together authors from widely differing areas or disciplines), outside peer experts are needed in order to bring the quality assurance level up to that of peer-reviewed journal articles.

The case for this approach includes the likely recognition by 'genuine' peers of pre- or re-publication of the essential content of book chapters in journals. While this is not a scholarly 'crime' in the same league as plagiarising the works of others, it should certainly require public acknowledgment in the texts concerned, motivations in respect of possibly differing roles and intentions in publishing journal articles as opposed to book chapters, and honest



declarations in reporting and rewarding systems. Another argument in the case for systematic three-level quality assurance is the likely resolution from this approach of the key questions of originality, primacy, citability and archival value of particular findings and discoveries. Book chapters characteristically leave out full descriptions of methods, background information, and assorted data, in order to strengthen and extend the main thematic narrative. In this sense, specific, third-level peer review would provide a kind of guarantee for readers of the solidity of that narrative. It would also help to attenuate the consistently lower value usually assigned to book chapters in scholarly evaluations (of which the research outputs weighting model of the DoHET is a good example).

- 3.7 The CREST database of monographs comprises 389 monographs produced between 2001 and 2006, authored by 689 authors and involving 195 publishers. The annual number of monographs submitted to the DoHET for subsidy has declined since 2001, but has recently settled at an average of around 60 titles per year. The vast majority were in the humanities (45%) and social sciences (37%). Slightly more than half were published by overseas publishing houses. Half of the monographs published by South African publishers were published by commercial publishers, one quarter by university presses and the remainder by university research centres, science councils and other publishers.
- 3.8 The database of edited/collected works, containing a total of 1 333 collected work titles (published by 535 publishers), was submitted for subsidy purposes between 2001 and 2006. The annual number of chapters in collected works steadily increased between 2001 and 2006; on average, there were about 220 collected works and 460 chapters per year, of which the vast majority were published in the fields of social sciences (47%) and humanities and arts (31%) The majority of collected works (78%) was published by overseas publishers, half of them commercial.
- 3.9 Almost 70% of the most productive monograph authors did not produce any chapters in collected works between 2001 and 2006. Somewhat surprisingly, nearly 40% of those who had published two monographs in this period did not produce any articles. As one would expect, those who are productive in monograph production tended also to publish more articles – 44% of those who produced three or more monographs also produced more



than three articles over this period. The relationship between the number of monographs and articles produced by the most productive monograph authors was statistically significant.

- 3.10 The CREST survey of top scholars in the country reaffirmed the field-specific differences in personal assessment of the relative value of monographs and journal articles. Majorities of respondents in the social sciences and humanities indicated that they regard their best monographs as better than their best individual articles. Respondents from the natural sciences were divided on this issue, with respondents from the health sciences and engineering indicating that they valued their best article as being more important than their best monograph.
- 3.11 The survey of knowledge utilisation in 2002 revealed that irrespective of whether books, chapters in books or refereed articles were stated as main communication modes, the proportions of project leaders who identified scholars in their own discipline as intended beneficiaries remained more or less the same, and ranged from 54% to 85%. The social sciences and humanities appear, however, to cater for a wider audience than do the natural sciences. In most of the social sciences and the humanities, monograph authors do not seem to represent a distinct public, although they may prefer different methods, deal with a broader set of topics, use older material more often and may conform more often to a traditional humanities research style.

3.12 Recommendations arising from this Chapter

The Panel recommends that attempts should be made to obtain the agreement of book publishers in South Africa to follow a general quality assurance system captured as guidelines based on the recommendations contained in this Report. This should be based on the typology of scholarly books proposed in Chapter 5 of this Report, and involve a clear separation of the complex collecting/editing functions from those of independent, individual review of free-standing book chapters by appropriate peers, both distinct in turn from commercial decision-making as to publishing particular works in the marketplace. This could be linked to a form of service-level agreement to which publishers would be required to adhere should they wish to benefit from the above-proposed subsidy system, or from the present research outputs accreditation model.



(The biggest quality assurance problem encountered in the committee-based accreditation process used by the DoHET has been the issue of whether the 'peer review' required under policy has been exercised by one or more commissioning editors, whether this has been exercised in respect of individual chapters or the whole collected work, and whether the person(s) concerned are true, disinterested peers in either context. Our recommendation is aimed at providing a stimulus for best practice that arises from greater clarity as to the nature and objectives of scholarly books, as described in this Report. The measures available to enhance the effectiveness and efficiency of peer review described in this Chapter 3 should also be adopted in a general agenda of producing approximate equivalence between the quality assurance systems of journals and those used for books; the most important of these are blind review (at least with respect to author/institution identity in the case of the reviewers), multiplicity of reviewers and their independent operation, an emphasis on improvement of submissions before publication, and greater cumulative acknowledgment of the voluntary contributions of good reviewers.)

4 WHO EVALUATES SCHOLARLY BOOKS, AND HOW WELL AND LEGITIMATELY DO THEY DO SO?

- 4.1 Scholarly books present a problem for evaluation by authorities at research institutions and granting bodies all over the world. Books lack the paradigms typical of the world of scholarly journals, where there is broad systemic compliance with the well-understood, if 'unwritten rules' governing additions to the literature, while a variety of systems of inclusion and exclusion, best illustrated by the ISI-Web of Science system of Thomson Reuters, provide a working value system (however much contested – see elsewhere in this Report). Thus the evaluation of books as research outputs in the subsidy system promulgated by the South African DoHET has presented an array of operational problems culminating in the commissioning of this Report. Some of the key issues are: What distinguishes scholarly books from other books? What is their special contribution to scholarship, knowledge dissemination and the growth of new scholars? How can policy formulation foster their quality and impact?

There is an urgent need for answers to these questions. The preceding chapters have provided a basis for clarifying the nature,



importance and meaning for academic discourse of scholarly books. This must now be woven into recommendations for best practice and optimal policy.

- 4.2 The most prominent (and controversial) example of evaluation of books linked to policy in South Africa is the 'accreditation' of books published by authors working at higher education institutions in the annual research outputs assessment conducted by the DoHET¹. This complex process illustrates most of the outstanding issues concerning the position of scholarly books in the country's system of innovation.
- 4.3 Recent subsidies awarded for book outputs under policy show that there has been a significant increase in subsidy units earned for books and book chapters (from 201 in 2004 to 331 in 2006); while this is the highest percentage increase for any of the three categories listed, subsidies awarded for books and book chapters still constitute only 4% of total subsidies awarded. The bulk of subsidies (92%) in 2006 were awarded for journal articles.
- 4.4 The books component of the DoHET research outputs system represents less than 5% of the units awarded, but generates most of the controversy and criticism directed at it. These have been so severe that the DoHET has been unwilling to release to institutions which of their individual submissions have been accredited and which have not, depriving the authors concerned of any real feedback on their work, and weakening the normative intention of the policy. The evaluation committee has annually enumerated its many problem areas in confidential reports, culminating in a request to the Academy of Science of South Africa to conduct this consensus study of books and book chapters published in, and from South Africa, in order to address the most important issues which have troubled the evaluation committee, which include the questions of whether book chapters can be reliably considered as part of 'the literature'; the adequacy of peer-review mechanisms; weighting issues; target audiences; questions about the power of books to enhance conceptual analysis and advance fields of knowledge; bibliometric issues; and, summaratively, where books are heading.
- 4.5 There are a number of other policy frameworks in South Africa that have problems arising from an inadequate understanding of the



scholarly role of books and collected works. Higher education institutions as intentionally multi-disciplinary organisations have promotion and other rewarding systems that depend for their legitimacy and workability on a commonly agreed framework of values and merit assessment. With journal articles as apples and books as pears, there are bound to be problems in achieving genuinely collegial situations. Research-active institutions have university presses that are sorely in need not only of sustainable operating models but also of re-connection to the core scholarship of the institutions concerned. The NRF and other funding agencies have a deep interest in the evaluation of books, as do bodies which measure research and development (R&D) indicators.

- 4.6 Objectively measuring the post-publication impacts of books requires the application of a number of approaches and parameters, of which the most important are formal published reviews in the literature itself (mostly but not only in scholarly journals), and citation analysis. The analysis of reviews of South African monographs revealed that 28% of monographs had been formally reviewed, with the majority in ISI-indexed journals. Only monographs in the social sciences and humanities were reviewed in South African journals. Equal numbers of titles published by foreign and local publishers were reviewed. On average, most of the book reviews appeared within one year after publication of the book.
- 4.7 There is still, unfortunately, no bibliometric system as well-defined as those widely used for journals that properly includes, or even concentrates on, books as valid items of the scholarly literature. This can be ascribed to the absence of generally accepted criteria which could define certain books as having 'scholarly status', and others not. This Report sets out to assist in this definition, and to establish well-founded criteria that if generally accepted, and implemented by the book publishing industry, would enable citation indexing to become applicable to the scholarly whole literature and not just to one part of it, as at present.
- 4.8 It is now widely accepted that books and chapters in collected works in the social sciences and humanities are valued highly and are recognised as essential modes of dissemination in these fields. Books in the social sciences and humanities generate on average three times more citations than do journal articles in the same

fields. Interestingly enough, at least one study suggests that more citations to books originate outside of the discipline in which the book was published (in this case Sociology) than is the case with citations to journal articles in that field. Citations to books take longer to register (usually very little within the first two years after publication) and have a longer active citation life. Why are books more frequently cited? Three factors may be significant. In terms of substantive significance, books generally encompass a broader scope than do typical articles. The subject matter may also be 'hotter' in that only marketable/topical books are considered for publishing. Books tend to be written for wider audiences, and therefore have a larger catchment of potential citers.

- 4.9 The search for citations in Google Scholar of the 332 South African-authored monographs in the database showed that just over half of these books received citations, with an average citation rate of 8.47. The earliest titles (2001) received on average 12.64 citations. Monographs in the natural sciences received the highest average number of citations (22.31), followed by monographs in the social sciences (11.35). Monographs published by foreign publishers received on average more citations (11.73) than did those published by local publishers (4.65).

4.10 Recommendations arising from this Chapter

The Panel recommends that apart from the requirement for independent peer review, and the application of the typological criteria proposed in Chapter 5, public policy in respect of the publication of scholarly books should also be based on an additional set of parameters:

- **No systematic distinction should be made between scholarly books published or co-published in South Africa and those published in foreign countries;**
- **Doctoral dissertations should not be categorised as 'scholarly books' unless they fully conform to one of the type categories proposed in Chapter 5;**
- **'Advanced textbooks' or 'professional handbooks' should also not be categorised as scholarly books unless they fully conform to one of these type categories;**
- **General (or undergraduate) textbooks should not be regarded as scholarly books;**
- **The minimum size/scope of a scholarly book should be expressed in words and not in (final printed) pages; a threshold**



of 60 000 words is proposed, subject to the discretion of legitimately identifying exceptions where an extended analysis or argument and its evidential development has been achieved in a smaller word-frame;

- The weighting of a book relative to a journal article should be upgraded, to regard an entire book of at least 180 000 words as having a value 10 times that of a single journal article, one of 120 000 words as having 7.5 times that value, and 60 000, five times, in proper recognition of the special scholarly contribution of book-based publications that conform to one of the four proposed types;**
- The rules of fractional apportionment of earned sub-units to the (South African) institutions of contributing authors should be applied as for journal articles;**
- The approach to scholarly books taken in this Report could usefully be taken as a point of departure in any approach to the evaluation of conference proceedings.**

(The case for this set of policy-directed recommendations has been made in the various chapters of this Report, drawing partly on the annual reports of the Research Outputs Evaluation Committee of the DoHET and partly on the examination conducted by the Panel itself. As in the case of the recommendations made for journals in the preceding ASSAf Report, our recommendation presented above makes the case of regarding local and 'international' scholarly books as having equal merit, and other reasons have been presented elsewhere in this Report. While doctoral dissertations are by their very nature monographic, they are unlikely to meet the proposed descriptor of such a typically senior type of scholarly book, yet the above proposal allows this to be recognised in exceptional circumstances. The proposed typology for scholarly books may be useful in distinguishing between some 'advanced textbooks/handbooks' in that the requirement for an original and extended 'new synthesis' in a work at hand will need to be satisfied in order for it to be categorised as being scholarly rather than purely education- or training-directed, which is what undergraduate textbooks are considered as being.

The issue of the minimum length of a book under public policy is a vexed one. Our suggested inclusion threshold parameter of 60 000 words is based on the explicit incorporation in the recommended typology of scholarly books of the notion of an 'extended' study or the exploration of a 'large-scale' topic in such publications. Exceptions can and do

occur but will be recognisable in context. This begs the question as to where peer-reviewed scholarly reports which are not published in journals should be placed in public policy terms; we cannot suggest a solution for this at this time, as it is not strictly in our remit. Attention will, nevertheless, have to be given to this anomaly.

The related issue of the weighting of books in relation to journals can also be dealt with in terms of the recommended typological categorisation of scholarly books, and our proposals for their quality assurance. Our proposal is non-linear because of the 'threshold effect' of an extended scholarly work, and the incremental effect of greater length beyond that threshold. Since chapters in the collected works will be required to be individually reviewed by appropriate peers, as well as subjected to review as 'components of the whole' by editors and (in one type) co-authors, there is no reason to see them as having intrinsically less value than individual journal articles. The panel, nevertheless, prefers the idea, consonant with its general view of books as being single, major contributions to the literature, where chapters are parts (fractions) of whole books, and do not intrinsically have a 'life of their own'.

We believe that the typological approach to scholarly books developed in this Report can readily be used as a starting point for an approach to the evaluation of scholarly conference proceedings; there is convergence in the practice of intense workshops leading to the eventual production of scholarly collected works, and conferences which are so designed and organised that they lead to a book of conference proceedings that can conform to the third or fourth type of scholarly monograph described above.

It is also clear that there needs to be transparency on the part of the DoHET in respect of its assessment of submitted books and collected works, at minimum at the level of feedback to institutions and authors.)

The Panel further recommends that the editors of South African journals should endeavour to commission post-publication (peer) reviews of any scholarly books published in their areas of focus in South Africa, as soon as possible after their publication.

(It is evident that as much connection as possible between the journal- and book-subsystems of the scholarly publishing spheres should be sought, to maximise the beneficial impacts of the two complementary forms of knowledge dissemination).

5 CONCLUSIONS AND RECOMMENDATIONS FOR A STRATEGICALLY ENHANCED ROLE OF SCHOLARLY PUBLISHING IN BOOKS IN AND FROM SOUTH AFRICA

5.1 The problems this Report seeks to address are deeply embedded in the notion of scholarship, and its translation into benefits at the levels of individuals, particular groups, and the entire society in general. In the preceding chapters, we have moved from the general to the particular. We have noted the development of an entirely new world of publishing emerging as a result of the electronic revolution, which we have explored in order to understand it and to appreciate its implications in broad terms. We have examined in this context the nature and significance of 'scholarly books' – what they are, why they are important, who makes use of them, and to what extent. We have reviewed our publishing industry in respect of its strengths and weaknesses, and have tried to understand these and find ways to address the identified problems. We have found that existing mechanisms for evaluating the research contained in books are mostly weak, often out of date and inconsistent, and need to be revamped. Against this background, we have examined each of these dimensions historically and in the present moment, and made recommendations in each area with the hope that these may guide our intellectual and publishing community towards a new appreciation of scholarly books, their production, consumption and evaluation.

We now continue our Report with a Chapter that concludes that:

- while we need to embrace 21st century changes, scholarly books remain and will continue to be, important for a variety of reasons;
- our publishing industry should be producing these books on a larger scale, and provided with a supportive framework to enable it to do so;
- scholarly books should be made into a much more significant part of academic life than is presently the case; and
- our cumbersome, inappropriate and outdated evaluation mechanisms need reform.

5.2 What is needed is a serial consideration of the assumed individual perspectives of important stakeholders in the field, building up from this a defining set of aggregate strategic recommendations that can most benefit scholarship in the South African system of innovation, and our society and polity in general. This approach



allows stakeholders first to identify their own interests and objectives reflected in the analysis, and then to trace the path to the final recommendations where the interests and objectives of ALL stakeholders have been subsumed and prioritised, contradictions addressed and minimised, and the whole set of issues woven into a common framework for the common good. The stakeholders considered are researchers at higher education and other institutions, direct and indirect funders and supporters/quality assurers of research, national beneficiaries of research, local editors and publishers of scholarly books, analysts and evaluators of research and development (R&D) activity, and learners and teachers at South African schools.

- 5.3 One cannot overemphasise the importance to the broad scientific enterprise of publication of research in the kinds of extended forms represented by monographs and carefully assembled collected works. Journals typically produce (by analogy to prose fiction) 'short stories' which put one or two new elements of knowledge into place, but it is rare that substantial 'novels' can be included in their typical space-limited formats. Recently, many journals have begun to address this deficiency by placing assemblies (usually up to six to eight items) of guest-edited, short authoritative reviews, as special features inserted into the normal run of diverse accepted articles. Even the best of these are limited in their synthetic value by their context and format. Only the extended book format is suited for the fully realised exploration of many important topics, and we argue that in an age of enforced disciplinary super-specialisation, it is irrelevant whether this is undertaken by one scholar or a group of scholars working closely together under the guiding hand of an authoritative editor(s).
- 5.4 We believe that this insight provides support for a key role of books as monographs or collected works, in providing potential for new conceptual syntheses that has both adequate 'space-to-argue', and interactive mechanisms of drafting and editing. This relates also to new insights into the nature and role of reading, and the peculiar advantages in the development scholarly skills that are generated from 'deep immersion'.
- 5.5 The issue of the accreditation system of the DoHET needs to be addressed with respect to book-form publications. The accreditation step in respect of every single research publication, over which the DoHET has complete control, feeds decisively into the



policy frameworks of other organisations such as the CHE/HEQC (in terms of its functions of quality assurance of research and post-graduate training at higher education institutions), the NRF (for general grant-making and bursaries at the same institutions), the Department of Science and Technology, NACI and the scientometric compilers of annual S&T indicators (as one of the key determinants of output units), and the higher education institutions and science councils (in terms of internal planning and resourcing policies and reward systems), not to mention the publishers themselves. In this sense, the accreditation function is critically important for the entire national system of innovation (NSI): it has to be credible, transparent, well-administered and generally promotive of higher standards and greater utility and significance, nationally and internationally.

- 5.6 As in the institutional accreditation models of the CHE/HEQC, a developmental approach to the accreditation of scholarly books requires implementation through the acceptance of new criteria for the recognition of specifically scholarly books, and adoption of best-practice guidelines by South African (and perhaps also international) publishers, that can meet the needs of ALL the users of the system as listed above. It is obvious that the important stakeholders in the system need jointly to contribute to the design of a robust, accountable and effective accreditation system for scholarly books that satisfies their individual but mostly converging requirements to the greatest degree possible; it is also obvious that the present system does not fulfil its basic function in this way.
- 5.7 Monographs (and focused collected works), in both the human sciences and natural sciences, can be regarded as substantial events in the otherwise smoothly incremental progression-curve of widening and deepening human knowledge and understanding, contributions that require more space and time than do journal articles to convey their particular original contribution to scholarship. They are much longer than journal articles because they develop and sustain an argument over a good deal of evidential and informational ground.
- 5.8 Arising from the preceding considerations, we now put forward a typology of scholarly books:
 - An extensive and scholarly treatment of a topic by one or more (few) scholars, largely comprising significant and original (own) research, embedded in relevant literature;

- An extensive scholarly exposition by one or more (few) scholars of the available literature on a topic, from a position of demonstrable authority, which makes a significant conceptual or empirical synthesis that advances scholarship;
- A collected work (book), assembled by one or more (usually many) scholars in a field(s) or group of related fields, which as a planned group of individually peer-reviewed chapters by appropriately qualified authors generates a new conceptual synthesis that advances scholarship; and
- A collective work (book), assembled by one or more (usually many) scholars in a number of related fields, in which the individual authors have noted and reviewed each other's chapters and adapted their contributions to generate a new conceptual synthesis that significantly advances scholarship.

We argue that adoption of the above set of proposed types of scholarly books, together with appropriate quality assurance measures based on editorial discretion and multiple peer review, would permit their operational inclusion in the scholarly 'literature', seamlessly with articles in peer-reviewed scholarly journals. It would also have a normative effect on the much less uniform models of quality assurance currently used in scholarly publishing. In addition, a number of chronic border disputes in the area could be resolved.

5.9 Recommendations arising from this Chapter

The Panel recommends that four categories of scholarly books/collected works should be regarded as being both valid and important part of the (scholarly) 'literature', in terms of best practice amongst researchers and scholars, and national policies such as the DoHET's accreditation system of research outputs produced by education institutions, and the criteria for grant-making by the National Research Foundation:

- **An extensive and scholarly treatment of a topic by one or more (few) scholars, largely comprising significant and original (own) research, embedded in relevant literature;**
- **An extensive scholarly exposition by one or more (few) scholars of the available literature on a topic, from a position of demonstrable authority, which makes a significant conceptual or empirical synthesis that advances scholarship;**
- **A collected work (book), assembled by one or more (usually many) scholars in a field(s) or group of related fields, which as**



a planned group of individually peer-reviewed chapters by appropriately qualified authors generates a new conceptual synthesis that advances scholarship; and

- **A collective work (book), assembled by one or more (usually many) scholars in a number of related fields, in which the individual authors have noted and reviewed each other's chapters and adapted their contributions to generate a new conceptual synthesis that significantly advances scholarship.**

(These categories are described and motivated in this Chapter, and have been selected because they clearly identify the main and distinct contribution of book-form publications to the 'literature' of scholarship and science, which journals are able to provide only by departing from their own special nature as periodicals featuring articles. The descriptors are normative in character, in that they encourage the kinds of best-practice that will greatly enhance quality, and generate benefits often lost in less aspirational models of book publishing. They will also provide clear demarcators between scholarly books and books serving other purposes, audiences and markets, especially useful in addressing long-standing problems encountered in the accreditation of research outputs, in recognising advanced scholarship in institutional settings, and in measuring the productivity of the innovation system through the use of valid indicators.)

We further recommend that the possibly beneficial effects of the prescribed and unprescribed use of scholarly books in both under- and postgraduate teaching and learning be studied, and the lessons learnt applied in general higher educational practice.

(The prescription of books as cover-to-cover reading materials in selected courses may enhance 'deep learning' and simultaneously foster the productive acquisition of reading habits lasting a lifetime, leading to the emergence of the kinds of scholars and scientists who understand the evolution of big ideas, and may therefore generate some of their own.)

In addition, we recommend that a wide-ranging project be initiated by the national DoHET and the provincial education authorities that will sharply increase the exposure of teachers, teachers-in-training and learners to locally published scholarly books that present some of the country's foremost scientific work in accessible form, and are effectively linked to the media.



(One of the most cogent reasons for publishing scholarly books locally is the opportunity beneficially to reach the next generation in ways that are not possible with expensive international materials; this needs to be planned in partnership mode, however, and will not happen without strong top-down sponsorship and appropriate resourcing.)

Finally, we recommend that the findings and recommendations contained in this Report be presented to key stakeholders in a series of consultative workshops, and that the outcomes and the impact of the publication of the Report be evaluated in four years time.

(This Report is making consensus recommendations that are supported by evidence and arguments presented in the various Chapters. We are aware of the scholarly seniority of many stakeholders, the fluidity of the sector in commercial/technological terms, and the conviction of the authors that only consultative processes are likely to achieve the adoption of their proposals or their further exploration. We believe the present Report provides a necessary but obviously insufficient basis for important reforms and considerable advancement of South Africa's research potential and actual performance, but joint downstream efforts will be needed, at both the widely distributed knowledge production and more focused governance levels.)



CHAPTER 1

The scholarly book in the twenty-first century

This Report's approach

The authors have cooperatively addressed problems which concern the production, use and evaluation of scholarly books in South Africa, which in a general sense have four dimensions:

- a There is an entirely new world of publishing emerging as a result of globalisation and the electronic revolution, which we need to understand and appreciate in broad terms.
- b In this context, we need to examine and assess the nature and significance of the 'scholarly book' – what it is, whether it is important, and why, who makes use of it and to what extent.
- c Our publishing industry has strengths and weaknesses in this respect, which we need to understand and address.
- d Our mechanisms for evaluating the research contained in these books are weak, out of date and inconsistent, and need to be revamped.

Against this background, we have written a Report which examines each of these dimensions historically and in the present moment, and makes recommendations in each area which will, we hope, guide our intellectual and publishing community towards a new appreciation and enhanced utilisation of the scholarly book, its production, consumption and evaluation.

This Chapter accordingly proceeds to examine what scholarly books are, how we define them, how they differ from other kinds of books, and what their meaning and significance is in the 21st century. This is done against the background of the worldwide publishing industry's particular situation at present, and the rise and influence of electronic publishing.

Humans during recorded history have learnt to generate and use knowledge cooperatively. While 'in the beginning was the Word', transmitted orally and mostly locally, then written, and later printed, text of neces-



sity became the main medium for the transmission and dissemination of what became known about the natural world and our own complex, socialised humanity. For two millennia, libraries were logically the key storehouses and places of access and study, until the dramatic advent of the internet just before the turn of the twentieth century.

The era of printed text held in libraries, still somewhat uncertainly with us despite the internet, has been characterised by the operationally useful classification of materials into '**books**' and '**periodicals**'.

The former category actually embraces a variety of publications published as '**books**', including true monographs (major original scholarly publications by single, or perhaps two to three authors), assemblies or collected works of original, scholarly 'book chapters' by larger numbers of separate authors, edited conference proceedings, textbooks at various levels of disciplinary authority and complexity, and non-serial publications that, while not scholarly, were considered to be important enough in collection-building terms to justify acquisition by academic libraries.

Periodicals by contrast are scholarly journals appearing in serial form at scheduled intervals ranging from weekly to once a year, and containing mainly original, focused articles that have each passed the test of independent peer-review, as well as authoritative reviews and other features. Scholarly publishing in journals from, and within South Africa was comprehensively reviewed in the *Report on A Strategic Approach to Research Publishing in South Africa* released by the Academy of Science of South Africa (ASSAf) in 2006.¹ The Report also contained a detailed analysis of the general code of practice (largely based on a combination of professional editorial discretion and multiple independent peer review), which has become internationally accepted as a basis for the most orderly way of building, maintaining and self-correcting what is loosely known as 'the literature' in the ever-expanding universe of scholarly journals, most of them recently transformed into dual print and e-published versions. This code for example proscribes the republication in journal articles of findings already reported by the same or other authors; requires full disclosure of all methods employed, repeatable in the hands of others; full sets of data, with appropriate and correct statistical analysis; proper citation of previous works; and avoidance of unjustified speculation.

This report addresses the much less unitary, clear-cut and codified world of book publishing, in and from South Africa. It seeks to explore

the **special scholarly virtues** of these non-periodical works, and the contributions that they make to 'the literature' and to the general advancement of scholarship and science. Above all, it sets out to do this in a form that will be useful to practitioners and policy-makers alike, answering as best possible the many questions that have arisen in relation to such issues as optimal research practice, training, planning and resourcing. The immediate prompt was a **request from the DoHET** for a follow-up consensus study by the Academy of books and book chapters published in and from South Africa, in order to inform policy on the **recognition of research outputs by higher education institutions** – implementation of the Regulations promulgated in 2004 in this sector have been associated with numerous problems at the operational level, particularly concerning the comparison of such outputs with journal articles, and the heterogeneity of the materials presented for accreditation (see Chapter 4).

A brief summary of the first Academy Report on journal-mediated scholarly publishing in South Africa, and its consequences

The above-mentioned ASSAf Report made ten recommendations designed to improve the quality and international profile of South African scholarly journals.¹ In essence, they amounted to a **strong case for indigenous publishing** provided it was of **high quality** as promoted by the acceptance and adoption of a national code of best practice in editing and peer review, and by a peer review-based system of quality assurance for journals; increased visibility through **open access** by both the 'Green Route' (free online, full-text publishing) and 'Gold Route' (institutional repositories, harvestable through planned interoperability); enhanced use in teaching, training and public information at all levels; and development of scientometric approaches appropriate for developing countries such as our own.

The Department of Science and Technology (DST) has accepted the recommendations of the ASSAf report and funded the Academy in facilitating their implementation as an essential component of a national (high-level) human capital development programme endorsed by Cabinet. The Academy has constituted a **Committee on Scholarly Publishing in South Africa (CSPiSA)** to oversee this process, and a **Scholarly Publishing Unit** has been set up in the ASSAf offices. A **National Scholarly Editors' Forum (NSEF)** has been formed, and a *National Code of Best Practice in Editorial Discretion and Peer Review* agreed, adopted and published.² All scholarly journals accredited by the Department of



Education will be subject to discipline-grouped peer review by Academy consensus panels, and in each case findings and recommendations will be released in the public domain – criteria and processes for this have been approved and adopted. A task team is working on proposals for a **national platform for the publication of open access journals of high quality**, in both print and e-versions, combined with citation and other forms of indexing to generate new **scientometric** possibilities.

Matters of definition

A number of key terms used in this Report require definition; somewhat surprisingly, there appear to be few standard definitions of terms in the field.

Scholarly publishing and related forms of publishing

The terms '**academic publishing**' and '**scholarly publishing**' are often used interchangeably in the literature, but in fact refer to (sometimes overlapping) segments of a wider 'educational' field of publishing.³ In some cases, the overlap reflects a narrower, rather than a wider, definition: both the terms 'academic publishing' and 'scholarly publishing' are often also used to refer, confusingly, to the publishing of peer-reviewed academic journals.

Le Roux's approach to these terms has been to consider '**academic publishing**' as encompassing tertiary-level textbook publishing ('tertiary educational publishing'), academic journals, and other publications aimed at an academic (i.e. tertiary education or university) or student readership.³ She regards the concept of '**scholarly publishing**' as being somewhat more nuanced, emphasising the significance of peer review and of research, and entailing a slightly different audience. Scholarly texts are written by scholars themselves (academics and experts, on the whole), and are aimed at a small, niche market, consisting largely of academics, researchers and educated people interested in a recognisable and specific area of study – but not necessarily students of this field.

The distinction between academic and scholarly publishing is useful as it illustrates that while South Africa has a fairly dynamic academic publishing industry (both non-profit and commercial), which focuses mostly on textbooks, there are very few scholarly publishers in the country, or indeed on the wider African continent. They tend to be university presses or local branches of major international university presses, as well as a few non-profit institutional (or association) publishers. The major

constraint is the extremely small market size within South Africa and more broadly within Africa, meaning that financial sustainability is more difficult in this environment than in the relatively prosperous North American or European one.

What does a **scholarly publisher** specifically do? Roosendaal and Geurts have specified that the five main functions of the scholarly literature are registration, certification, making aware, archiving and rewarding.⁴ Alternatively, Rowland believes that the four main functions of the scholarly literature are dissemination of current knowledge, archiving of the canonical knowledge base, quality control of published information, and assignment of priority and credit for their work to authors.⁵ These activities are closely related to Kling and McKim's three dimensions for assessing the strength of (especially electronic) scholarly publishing: publicity, trustworthiness and accessibility.⁶

The core preoccupation of scholarly publishing therefore focuses on the distribution of scientific or scholarly knowledge. Because such knowledge is predominantly generated at universities, scholarly publishing is often closely linked with university presses.

It is important to distinguish scholarly books from **non-fiction trade books** that are aimed at a general (lay) readership. Le Roux has argued that the difference between the two forms of publishing comes down to one of focus or emphasis³, while others have seen the objectives of the book publisher as being to make profits for the shareholders and to publish valuable books (a view that is far more applicable to trade publishers than to scholarly publishers). Publishers of general, or trade, non-fiction value profit over and above (academic) merit, and the text is seldom based on research, and is also pitched at lay readers. In other words, where a popular work of non-fiction takes into account its intended non-expert audience, and tailors its language, terminology and level of detail accordingly, a scholarly work is not required to make such concessions, but may, in certain contexts, do so.

Classification of books: Monographs/ Collected works

Monographs have been described as representing a "fundamental, bedrock form for recording both the process and the results of scholarly inquiry, and for transmitting them to other scholars and to succeeding generations. They are as old as the academy itself".⁷



The term 'monograph' as used in this report was at one time extended to any single-authored, sustained examination of at least 75 pages, on topics indexed and abstracted by Philosopher's Index; the minimum length was arbitrarily set at 75 pages since this is midway between the 64 and 100 pages that have been designated as the dividing line between pamphlets and books ^{cited in 8}. [As the pages of books contain a highly variable number of words, this Panel is strongly of the opinion that word counts should be used in any discussion of the length of scholarly works, a topic to which we shall return in Chapter 4.] None of the books examined included biographies, and biographical criticism appears to play a minor role compared with literary and artistic studies.⁸

For the moment, we can operationally define a **monograph** as:

a non-fiction scholarly book, or a detailed, separate and documented treatise on
a single subject, or class of subjects, or on one person, or a group of related
subjects, usually written by one person (but see Chapter 4 for new proposals).

A collected work, by contrast, may for the moment be defined as:

a book of originally separate works, such as a collection of research essays, poems, etc, by an author (or different authors), selected for publication and brought together in one edited volume by an editor(s), who has/have to ensure that the individual contributions are of the highest quality and coherence, while the result is a work that is greater than the sum of its individual parts (but see Chapter 4 for new proposals).

For purposes of illustration, at this early stage in our Report, one can quote Nederman's list of some of the problems potentially associated with collected works, as opposed to monographs⁹:

- Tenure/promotion committees do not attach much value to edited volumes.
- Many scholars are unwilling to edit collections due to the difficulties they experience in obtaining contributions from all the commissioned authors.
- Publishers often refuse to consider collected works due to the small chance of recouping costs.
- Edited collected works are generally deemed to be of lower quality than monographs.
- Edited collected works are generally assumed to involve less rigorous peer-review processes than scholarly journals.

- There is often a concern for the intellectual integrity of chapters in collected works.
- A lack of internal coherence is common in such collections, in that individual chapters do not add up to a greater whole, or overlap with each other, or contradict other contributions.

Potential advantages of collected works, also listed by Nederman⁹, include the following:

- Collected works allow collective scholarship to be expressed that could not have been produced by individual scholars.
- A range of scholars with different perspectives can enter into debate about key issues, so that the result of the interaction is a collected work that is truly greater than the sum of its individual parts.

Types of publishing houses, including university presses

Commercial publishers are companies for which the publishing of books is the sole or main business, which includes selling and/or distribution. If publishing is not the core business of an organisation but it has a distinct organisational entity devoted to commercial publication, commercial publisher status can be demonstrated through publicly available documentation to the effect that: publications are not completely paid for or subsidised by the parent organisation or a third party, the publishing arm is responsible for the distribution of books, and there is an ability for the public to purchase books from the organisation or other publications outlets.

The following types of companies are not usually considered commercial publishers: publishing units within faculties in universities (note the official publishing arm of a university is usually eligible, but the publishing arm within a centre or within a faculty may not be), clearing houses, publishing arms of museums or galleries, companies that are hired only to print or distribute books but bear no responsibility for the editing process or take no risk in choosing to publish, or companies that publish books but sub-contract printing and/or distribution, thus having no responsibility for the entire publishing process.

University presses are a specialised form of academic publisher, usually not-for-profit, and affiliated to a university. The parent organisations generally provide subsidies or subventions to support these presses, which enables them to emphasise academic or scholarly merit rather than commercial viability in their publishing decisions. They produce mainly scholarly works, but, because scholarly books are mostly unprofitable,



may also publish trade books, textbooks, and reference works, with larger audiences to whom more copies can be sold. Most university presses do, however, operate at a loss and therefore depend on the subsidies provided by their parent universities. Certain presses are self-sufficient (often because of endowments), while a few make large profits associated with a highly diversified portfolio (e.g. Oxford University Press). University presses tend to develop specialised areas of expertise. For example, Yale publishes many art books, the University of Chicago publishes many academic journals, the University of Illinois press specialises in labour history, and MIT Press publishes linguistics titles.

The Association of American University Presses (AAUP) has a good description ^{cited in 3:}

“University presses are publishers. At the most basic level that means they perform the same tasks as any other publisher – university presses acquire, develop, design, produce, market and sell books and journals. But while commercial publishers focus on making money by publishing for popular audiences the university press’ mission is to publish work of scholarly, intellectual or creative merit, often for a small audience of specialists.

University presses also differ from commercial publishers because of their place in the academic landscape. A university press is an extension of its parent institution and it’s also a key player in a more general network – including learned societies, scholarly associations and research libraries – that makes the scholarly endeavour possible. Like the other nodes in this network, university presses are charged with serving the public good by generating and disseminating knowledge. That is why the US government has recognised our common interest in the work of university presses by granting them not-for-profit status.

Many of the books university presses publish, then, are meant primarily for scholars or other people interested in certain concentrated fields of research. Thousands of these books (generally termed monographs) have been published.”

A recent analysis of university press publishing in North America has emphasised the impact of trends on both the demand (or customer) side of the enterprise (mostly scholars and students working through their institutional libraries), and on the supply side (embracing authors and publishers, especially university presses).¹⁰

Libraries have become very dependent on library wholesalers, with whom they have large-scale contracts which effectively represent the outsourcing of much of the critical selection and procurement function of these in-house service organisations. On average, print runs of scholarly titles, published in greater numbers than before by US university presses, have fallen from 600-700 copies to 300-400 copies, of which more than half are placed through wholesalers. Canada has a national 'Aid to Scholarly Publications Programme' which subvents the publication of approved books at about 8 000 Canadian dollars per volume; further subventions from institutions or authors are usually required at about 25 -50 % of this amount.¹⁰

Self-publishing is the publishing of books and other media by the authors of those works, rather than by established third-party publishers. Although it represents a small percentage of the publishing industry in terms of sales, it has been present in one form or another since the beginning of publishing and has seen an increase in activity with the advancement of publishing technology, including xerography, desktop publishing systems, print on demand, and the World Wide Web. Cultural phenomena such as the proliferation of media channels, and blogging have contributed to the advancement of self-publishing.

Vanity presses or vanity publishers are book printers who, while claiming to be publishers, charge writers a fee in return for publishing their books, or otherwise make most of their money from authors rather than from the public. A vanity press is distinguished from a small press publisher in that the small press acts as its larger cousins do, performing the traditional roles of editorial selection, binding and review, and marketing at its own expense, rather than at the expense of the author.

The vanity companies often refer to themselves as joint-venture or subsidy publishers, because the author 'subsidises' (or finances) publication. Thus, they generally agree to print and bind any author's work if the author is willing to pay for the service; these fees typically contributing significantly to a vanity press's profits.

By comparison, commercial publishers derive their profits from sales of books, and must therefore be cautious and deliberate in choosing to publish works that will sell, particularly as they must recoup their investments (such as advance payments and royalties to authors, editorial services, promotion, marketing, and/or advertising). To better help sell their books, commercial publishers also tend to be selective in order to cultivate a reputation for high-quality work, or to specialise in a particular genre.



Because vanity presses are not as selective as commercial publication, publication by a vanity press is typically not seen as conferring the same recognition or prestige. Vanity presses do offer more independence for authors than does the mainstream publishing industry but their fees are high and sometimes restrictive contracts are required.

International trends in the production and use of scholarly books

In a comprehensive review of the state of scholarly publishing, an *ad hoc* committee of the Modern Language Association (MLA) produced a report in 2003 in which it identified the following areas of crisis ¹¹:

- **University presses and university libraries face financial pressures.** University presses, which are substantial publishers of monographs, generally receive inadequate subsidies and are subject to other manifestations of an inadequate understanding of their role in institutions (see below); this is one of the many causes of steadily **declining numbers of published monographs**. The British Academy in 2005 lamented that monograph print runs had declined between 1960 and 1990 from figures such as 1 500 to 200-300 per volume, and that the national humanities community had ceased to be able to support its own production, relying on international sales of high-priced books to survive.¹² Libraries, on the other hand, in adapting to book price increases and resource constraints, as well as the growth of journal titles combined with the punitive 'bundling' model of journal subscriptions, have steadily had to increase the **ratio of journal acquisitions relative to books**. (At the Australian National University, the ratio of books to serials in 1976 was 50:50, while in 2002 it was 17: 83.¹³)
- **Textbooks and undergraduate textbooks**, as well as **reference works** have become more prevalent in the book lists of university presses, the traditional focus of academic scholarship shifting to products that can generate revenue.
- The **humanities**, as a particularly book-dependent sector, have been particularly badly affected, with publishers struggling to find outlets for books and authors unable to find publishers. Academic tenure and promotion in this sector are largely dependent on the book publications that scholars produce. The situation is aggravated by the high production of PhDs in the humanities, which negatively affects the chances of getting such materials considered for publication as a consequence of quality dilution. Textbooks, even though more marketable than monographs, do not provide the same prestige in the humanities as do books.

Library acquisitions tend increasingly to focus on catering for broader readerships. Scholars active in focused disciplines typically have to deal with a small market, which affects their ability to publish the necessary number of publications to proceed through the ranks.

In a more recent paper, Margaret Dalton¹⁴ examined the concerns of the relevant parties involved in the chain of book publishing: publishers, booksellers, librarians, students, general readers and authors.

Scholars: The increasing linkage of tenure and status with publications has led to a kind of 'forced productivity' linked to a search for measures of impact. In the humanities, publishing books remains the dominant goal of faculty members; issues of quality and impact are now frequently and problematically raised in their working environment. Considerations such as the significance and multi-dimensionality of book topics, their scope, and the depth of the approach tend to become secondary in comparison with the clear positioning of journal articles in terms of citation rates and impact factors.

Publishers: The main purpose of university presses, which is to publish the best scholarship available in their institutions and elsewhere, appears unable to offset the importance of being economically viable, at least in the minds of the strategic leadership of such institutions, which frequently, however, undertake subsidisation from central budgets of many other possibly analogous activities and projects considered to be 'core to the mission'. University presses are always expected to 'balance their books'; with falling numbers and sales of monographs, they have been forced to expand their focus to include the publication of reference books, textbooks and books removed as unmarketable from the lists of commercial publishers. University presses are forced to consider what will sell, and rejection rates for manuscripts are high. In the race to deliver marketable publications it has become more-or-less irrelevant whether a manuscript constitutes ground-breaking research.

In rearguard attempts to attract the best subject-specific monographs, some university presses have gone to great lengths in marketing themselves as publishers specialising in certain subject areas. Others have taken part in advocacy towards a reappraisal of their role, arguing that a revitalised and broad commitment to institutional publishing can enhance the impact of their academic programmes, attract brilliant scholars, enhance collective reputations, maintain a strong voice in what constitutes sound/outstanding scholarship, and even (at the practical level) reduce costs.¹⁴ This goes along with the imminent develop-



ment of digital institutional repositories, which may re-focus attention on the in-house workings of a scholarly community, newly energised by deeply integrated electronic research and publishing environments.

Non-university scholarly presses are currently also subject to serious pressures. The 'decline of the monograph' is strikingly evident in average print runs and sales¹⁵; library budgets are used up increasingly to satisfy bundled subscriptions/licences for periodicals, and devices similar to those described above in the case of university presses diminish the focus on scholarship and quality in favour of more easily marketable products. Thompson has summarised the various responses that publishers have made to shrinking retail book sales in a generalised change in their organisational culture.¹⁵

- **Reduction of production costs**, through process streamlining, technological innovations, reduction of royalties, smaller print runs, paperbacks instead of cloth, etc;
- **Increasing prices**;
- **Changing publishing strategies**, including greater selectivity in title acquisition and list-building, specialisation, migration of publishing focus to better-selling areas like textbooks or trade books, exiting from the scholarly side of business, or developing the book equivalent of 'bundled' licences for online access to sets of scholarly journals;
- Enhanced use of diversified **marketing** approaches; and
- **Diversification** into joint print and online models, often involving free internet 'sampling' of digital text with the option of full-text purchase, in or out of partnership with online retailers, bundled licences, etc.

Booksellers, book buyers and libraries: **Libraries**, being the principal market of university press publications, have responded to limited financial resources by maintaining very expensively packaged subscriptions to serials instead of purchasing books, often investing in electronic-only resources, expanding inter-library shared-purchasing and loan agreements, and even turning a blind eye to the photocopying of books instead of buying them. Many factors have diminished the ability of **scholars** to buy books themselves, the hallmark of 'old' forms of scholarship. In order for booksellers to make a profit in constrained spaces, rapid turnover is crucial, and unsold books are often quickly returned to publishers. Whole books are read less and less by **students**, who are frequently given compilations (readers) or who are directed to, or opt for, more recent and/or shorter publication options such as book reviews and summary articles, often on the internet.

The **economics of publishing** by university presses and commercial scholarly academic presses need to be taken into account. In terms of costs, 62.7% is attributable to printing, paper, binding and other production items, while promotion, distribution and fulfilment make up 12.7% of costs, with editorial expenditures also being significant. Monograph prices have accordingly increased by 82% between 1986 and 2003.

It is important to note that pricing practices for book sales vary considerably from country to country. Close to home was the trenchant observation that Nelson Mandela's autobiography, first published in South Africa, retailed for R150 here at the same time as it was available for the equivalent of R70 in the USA, R80 in the UK, and R75 in India; these comparative figures were not relatable to the so-called 'Big-Mac' indicators, i.e. they were not caused by systematic differences in monetary buying power between the countries concerned.

A new era in authoring, publishing and reading scholarly texts

The greatest source of change for scholarly publishing can be found in what has been termed the '**digital revolution**', which provides the possibility of options such as open access publishing. Together with well directed policy and fund allocation initiatives this could build the foundation for an effective economic structure for scholarly publishing. The 'digital revolution' in publishing is associated with a number of simultaneous (multiple) revolutions:

- A **personal revolution** empowering individuals to access, analyse and control information;
- an **electronic revolution** associated with the creation of vast amounts of information in digital format;
- a **network revolution** for storage and transmission of information;
- an **authorship revolution** whereby individuals can easily reach any number of target readers;
- an **intellectual property revolution** greatly complexifying issues in an already contentious area;
- an **information-commodifying revolution**; and
- a far-reaching **knowledge-management revolution**.

All these changes are rapidly changing the publishing world in ways that are in many cases still unpredictable. Many observers are pre-occupied with the issue of **open access** (see later section) but the ramifications are in fact much wider, as the above list of contemporaneous 'revolutions' well illustrates. There is dispute as to whether it is largely



technological development that is driving changes in the publishing industry, or whether change agents are capitalising on technological opportunities in the light of a long-static industry.^{15,16}

One of the most telling concepts in modern publishing is that of the 'long tail'; this arises from two-way plots between the numbers of sales and volumes published in a given period¹⁶; the at-first pessimistic message of the predominance of items with small sales is convertible into optimism that new approaches to publishing technology and marketing can create a large number of opportunities in relation to the majority of worthwhile books.

In A '**Book Publisher's Manifesto for the 21st Century**', Lloyd has advocated a re-positioning of traditional publishers in the changing media flows of the time.¹⁷ She argues that publishers will have to accept deep cultural, economic and educational changes and respond actively, thinking more about the possible diverse applications of the content of publications, and less about individual, integral products (books), the very nature of which is changing. Author-publisher-reader-user relationships are being re-defined in a much more 'democratic' and to-and-fro way. Ideas like Barthes' '**death of the author**' (see below), with authors becoming mere text initiators, and every reading changes meanings, are typical of the Zeitgeist. Stein in turn has described the '**networked book**' of the future, talking of "the book as a place, as social software – but basicallythe book is at its most essential, a structured, sustained intellectual experience, a mover of ideas, re-invented in a peer-to-peer ecology."¹⁸

It is worth quoting Lloyd in full on her suggestions for the directions in which publishers will need to go¹⁷:

"Perhaps the only way to answer this will be for publishers to focus back on developing specialist expertise around vertical niches, taking advantage of the 'deep niche' provided by the long-tail world of the internet... In this context publishers would focus value on subject of genre expertise and intimate, direct marketing knowledge, providing editorial and marketing functions beyond the merely technical. In this scenario, publishers would need to move back further into the territory of filter and editorial consultant, and to re-focus energies on their (oft-forsaken) role as career nurturers for authors (a space currently shared at least by agents). They would also need to develop brands in subject of genre niches so that their platforms are able to gain traction over those developed by competitors, and to become far, far better at direct sales

and marketing. Publishers will need to press further into the retail space, developing direct relationships with the consumers of their content, if they are to become an effective bridge between authors and readers. Whatever shape the future holds, it looks like publishers won't survive unless they regain some of the roles that over the years have been handed over to other partners in the field."

Lloyd goes on to say that few publishers have begun to manage their task of "systematically creating, storing and seeding sample chapters, excerpts, audio or video interviews, author appearances, media coverage, features on social networking sites, and rich bibliographic material".¹⁷

The scanning of huge numbers of out-of-copyright (and many that are still under copyright) books and manuscripts in some of the world's greatest library collections conducted by Google and others is one of the dramatic projects of our time.¹⁹ The implications are only now being realised, including the exploration of 'what happens when books connect', and the hugely expanding use of links and tags to diversify uses of, and connections between content. Copyright issues loom large in this domain, and this is reflected in the ground-breaking settlement being concluded between Google and publishers/authors which imposes the commercial model of 'full-text only for payment' on the large and critical segment of scholarly books that are out-of-print but still under copyright protection, while the creation of an irreversible monopoly may have potentially serious long-term implications of the kinds of cost increases that have been the main feature of commercial journal publishing over the last few decades.²⁰

Jensen has written about the 'new metrics of scholarly authority' in the evolving world of networked books.²¹ He defined the characteristics of Web 1.0 (1992 until about 2002) as one in "which authoritative, quality information was still cherished: content was king, andintrinsically valuable, with business models for online variants of print publications using the standard print wholesaler model." Web 2.0, by contrast, "presumes the majority of users will have access to broadband, with unlimited, always-on access to the internet, and few barriers to participation,harnessing collective intelligence...an era of endless information abundance, greatly changing the habits and business imperatives of the online environment." Authority is measured by the 'page-ranking' methodology pioneered by Google, augmented by 'voting by tag' and many other elaborations of the networked society, culminating in



the evolving algorithmic authority-ranking methods of **Web 3.0**. The new era will allow assessment of the impact of individual works in multiple ways, ranging from the prestige of the publisher, the pre-reviewers and post-reviewers to that of other commenters/bloggers; raw and pre-valued links to the work or parts of it; prestige (including that of other work) of the author(s) and institution(s); reference or citation network and its temporal parameters (long-lived attention); inclusion in lists and other human-selected distillations; assignment of tags and by whom; etc. All this can only be done by computers using particular algorithmic search programmes.

It is obvious that book publishing in this Web 3.0 environment will be a very different enterprise, and scholarly activity will acquire new characteristics.

The most comprehensive examination of **book publishing in the digital age** is that of the same name written in 2005 by Thompson.¹⁵ The author follows the **ideas of Bourdieu in relation to 'social fields' and 'capital forms'** of book publishing²², and provides a large array of relevant information about the situation in North America and Britain. He identifies four major interconnected trends: **Concentration of publishing activity in a few multinational companies; a similar concentration of bookselling in a small number of multinational companies; globalisation of markets and dominance of English; and the rapid, often sequential introduction of new technologies**. There is considerable emphasis on text cycles, and the way in which publishers seek to maintain their control and profitability in the face of technological change and altered business practices (see above). The interests of authors, readers, publishers and intermediaries are separately examined and theorised.

The biggest issue in the new era of 'abundant digital information' is that of access, and the most prominent crusade is that for **open (free online) access** to as many materials on the web as possible. The issue permeates all consideration of Web 2.0, and especially 3.0 environments, and ushers in the profound question of the sustainability, reliability, and serviceability of the new systems. It is accordingly examined in the next section.

Open access (free online) publishing

The principle underlying scholarly open access publishing is centuries old, but has gained new impetus as it is increasingly positively positioned in the collective scholarly mind against the perceived 'ugly face' of

commercial publishing focused on the retention of its large profits in the last decades of the twentieth century at the expense of convenient access, epitomised as the yoke of subscriptions and tolled access. Willinsky has characterised the basic moral argument for open access in that “a commitment to the value and quality of research carries with it a responsibility to extend the circulation of this work as far as is (sustainably) possible, and ideally to all who are interested in it and all who might profit by it.”²³ The principle underlying **scholarly open access publishing** is actually centuries old, but has gained new momentum in the digital age. The principle has a history that dates back to the great libraries of the past, from the collections held at Alexandria founded in the third century B.C., and the mosque libraries such as *al-Azhar* in Cairo, which flourished in the sixteenth century, right through to the public library movement of the last century. It is what the international journal of science, *Nature*, set out to do in 1896, when it promised to “place before the general public the grand results of Scientific Work and Scientific Discovery, and to urge the claims of Science to a more general recognition in Education and Daily Life.”

The recent Joint Information Systems Committee (JISC) Report, based on the UK but applicable elsewhere, has directly shown how replacement of the currently prevailing subscription and toll access models by open access models would produce **extensive systemic savings**, and release very significant amounts of money for research and related developmental activities.²⁴ This landmark analysis is one of the most comprehensive ever performed on costs in the research system as a whole, and must be taken into account in any approach to future rationalisation of knowledge economies, globally and within individual countries.

This underlying principle, that a commitment to scholarship (especially if performed with public funds) carries the **obligation of broad dissemination** is an ongoing story finding various articulations in differing contexts. Over the last couple of decades, the impact of the digital revolution on publishing has been the topic of much speculation. While many of the extravagant claims, such as the ‘death of the printed book’, are now merely amusing memories, digitisation has had, and will continue to have, a significant impact on publishing. It has introduced an element of experimentation into a static publishing environment, and is affecting the business of publishing on at least four levels: (1) operating systems, (2) content management and manipulation, (3) marketing and service provision, and (4) content delivery.



Thompson has described the various innovative versions of **electronic access to collections of scholarly (book) materials** that have been devised, in response to the idea of free online open access, from within the confines of the reigning subscription/licensing/toll business model.¹⁵ Briefly, these are the 'virtual library' (of which the ntelibrary, Questia and the ebrary are good examples), digital warehouses (such as those of Taylor & Francis), the scholarly corpus model (such as Columbia International Affairs Online, CIAO, Gutenberg<e>, History Ebook, TORCH, and Oxford Scholarship Online), and the model of 'Scholarly Communities' (as pioneered at MIT Press). In all these, medium-term, let alone long-term, viability has been a serious problem, the essential compromise between paying and viewing unrealised, and the complaints of the have-nots unheard.

The physical form of **content delivery** is potentially the most profound issue to be resolved, as the direct and easy (not necessarily completely) availability of content to end-users in electronic form, rather than in the form of printed books, would transform the whole financial model of publishing. In its most idealistic expression, it would no longer be necessary to lock up resources in physical books, stock books in warehouses, ship them to foreign markets, and accept unsold returns; it would be possible to bypass a whole set of traditional intermediaries, amount overall in significant cost savings and reduced risk. Most important for the scholarly enterprise is the potential of e-publishing to achieve wider and more immediate dissemination of scholarly works, in addition to preserving works at nominal costs. The development of highly successful (and apparently sustainable) models for downloading music, which have very quickly become part of everyday life, seems to point to an imminent analogous revolution in the downloading of scholarly resources. This goes along with the invention of e-reading devices like Amazon.com's 'Kindle' (now in its second and third versions, with many other companies entering the market) is leading to a situation where a non-exploitative system of commercial publication of e-books may become more viable than the models described above.

Important changes are imminent in the vast industry of university textbook provision, many of which mirror the changes taking place in the publishing of scholarly books, adapted to the particular much larger, and significantly different, nature of the enterprise.²⁵

The access principle has found new currency on the back of the '**Open Source**' and later the '**Open Culture**' movements, geared towards free-

ing the creative potential of innovation in the Internet era from rampant commercialisation. Lessig promotes Open Source largely as a reaction to the 'privatisation of the commons', or reducing the encroachment of commercialisation on public resources.²⁶ This is a danger familiar in the field of scholarly publishing, where much of the publicly funded research output becomes a commodity, traded like any other, largely under the control of multinational corporations, and the access principle is replaced by the 'profit principle'.

In seeking ways to apply this access principle in the current scholarly communication context, particularly with an Africa focus, one needs to be mindful of what Thompson called the **'technological fallacy.'**¹⁵ He claimed that the mindset informing the technological fallacy assumes a technological view of the world, a view that is preoccupied with the latest developments in technology and tends to assume that technology is the pacesetter for social change. The problem with this view is that it does not give sufficient attention to the nature of markets and to what end-users actually want. It does not see, for example, that there may be all sorts of reasons why many readers remain deeply attached to the physical book, ranging from an attachment to the physical and cultural artefact, to the preferred reading experience of certain kinds of material.

Within South Africa, which has often been described as a two-nation-state, signaling its uneven development and modernisation, application of this technological fallacy would simply perpetuate and accentuate the current structures of privilege.

To overcome the risks to the principle of access inherent in the technological fallacy, it needs to be emphasised that technologies must always be contextualised: they must always be analysed in relation to the specific social contexts of use. Therefore, while the digital future offers much in opening access to scholarship in South Africa it needs to be considered in a manner that best serves the principle of access within a given context and not blindly follow the rhetoric of futurists. The approach recommended here is rather to use the technological resources available today to stimulate and maintain effective levels of scholarly communication.

Some practical aspects of online publishing of scholarly books

Clarity is required regarding as to what is meant by 'online publishing of scholarly books.' Several kinds of electronic journals exist, and a distinc-



tion can also be applied to distinguish between **'true' electronic books** and **electronic versions of print books**. The first kind of book appears only in electronic format, whereas the second appears in both print and electronic format, with the print format being the primary one.

A study by the Joint Information Systems Committee (JISC) in the UK, conducted in 2003, examined the barriers to uptake of e-books in the scholarly community.^{cited in 27} Some of the study's main conclusions are:

- Within the context of academic publishing, there is not an adequate definition for the term 'e-book'; this constitutes a source of confusion and therefore a barrier to uptake.
- The wide diversity of software and hardware products associated with e-books is a cause of confusion and therefore constitutes a further barrier to uptake.
- Currently there are significant differences between the print book and e-book physical and information supply chains. The e-book information supply chain is imperfect. Awareness of the main user groups, especially of academics, lecturers and students, but also, in some cases and for some products, librarians, is low. This constitutes a major barrier to uptake.
- Many publishers are reluctant to make their publications available in e-book format and/or to promote them too strenuously, because they are afraid of the effect on their revenues. This is especially true of the major textbook publishers, who have instead invested heavily in producing supplementary/complementary electronic materials to support print books.
- Both publishers and aggregators have developed a wide range of pricing models for e-books, some of which are difficult to understand.
- Booksellers have been slow to experiment with selling e-books. Therefore the important role of information providers that they fulfill in the traditional supply chain is missing from the e-book supply chain.
- Because of all these reasons, the survey found that actual expenditure on e-books by both HEI and FE institutions was low. In university libraries, the average spend figure per institution was £10,546, against an average spend of £316,394 on print books. The highest and lowest spending old universities spent 10 per cent and 0.03 per cent respectively of their print book expenditure on e-books. The highest and lowest spending new universities spent 10 per cent and 0.07 per cent, respectively.
- Twenty-four academics were questioned, from six universities [...]: 33 per cent were using them [e-books] for lecture preparation, 38 per

cent to prepare course material, 38 per cent to carry out research, 8 per cent to consult tables and formulae, 42 per cent for general reference, and 42 per cent for private reading/pleasure. The academics were likely to obtain e-books from a variety of sources, of which the university library (75 per cent) was predominant. Thirteen per cent were also likely to obtain them from other libraries, 21 per cent direct from the publisher, 21 per cent from booksellers, and 58 per cent were likely to obtain them free from the internet.

These findings of the JISC study suggest that '**e-book**' publishing is still in its infancy, and that its uptake and integration within the scientific and academic community is not yet optimal.

An additional barrier to the uptake of scholarly books, whether electronic or printed, relates to the fact that scholars are largely reliant on **Abstracting & Indexing Databases and OPACs (library catalogues)** for the identification of relevant monographs. These databases often inadequately index monographs, because a small number of subject terms cannot possibly do justice to hundreds of pages or more of text.

To the extent that e-books will allow for full-text searching, one could argue that the visibility and citation of these e-books will be improved. The literature search done in the study by CREST commissioned by the Panel (see Chapter 4) did not reveal any information on the impact or citation rates of scholarly e-books, nor any studies on the quality control issues pertaining to e-books.

Lastly, there is the issue as to whether the deeply entrenched culture of the 'book-in-the-hand' can be replaced by a multiplicity of reading forms. This requires consideration of the longitudinal, anthropological story of how books came to occupy the position they still largely hold.

Book history – a new discipline

Increasingly, many social scientists have begun to address the importance of books in human culture, with strong longitudinal historical perspectives that provide a basis for creating still mostly controversial scenarios for the 'future of the book'. A new discipline is being created with its own theoretical frameworks and points of reference. In '**An Introduction to Book History**', Finkelstein and McCleery have provided a useful text to which we are indebted for much of what now follows, necessarily in condensed form.²⁸ It is evident that no consideration of scholarly books in South Africa can avoid engaging with the formalities



of the evolving interpretations of book history in general, as the local scene exists in equilibrium with the larger world of book publishing, shares its historical dynamics, and will undoubtedly suffer the same fate or future.

The origins of books as we know them lie in the **multi-centric development of writing** as an often uncomfortable transition from the conventions and particular features of **orality** in human societies. **Technological shifts**, most of them slow to arise and to diffuse, involved scrolls changing into parchment-based **codex**; simple, repetitive transcription changed into individually authored works; the **printing press** massified production, distribution and access; and patronage evolved into commercial retailing and the notion of **copyright**. Each of these changes brought with them subtle but significant changes in the interactivity of scholarship, responsiveness to the ideas of others, and the cooperative building of knowledge systems and paradigms through the involvement of larger and larger numbers of scholars who read each other's writings and engaged with them.

It is no accident that the largest and most rapid changes in book history coincided with the dramatic opening up of new scientific and technological worlds in the *Renascimento* (Renaissance) and the succeeding Enlightenment.

One of the most useful explorations of the new discipline of book history in the context of this Report has been that of **authors, authorship and authority**. Some of these are simply consequences of technological transitions, but the most significant is the idea of books as a platform for the development of big ideas by individuals, in which the works of past or contemporary authors are critiqued and woven into new textures and concepts, displaying mastery of the relevant field, and authority in or over it. While this authorship and accompanying authority has been diluted by recent theorising about the 'death of the author' (Barthes ²⁹), as the importance of readership was increasingly emphasised, and the power relations between reader and author 'deconstructed', the role of scholarly authorship remains a fundamental part of the way in which the general 'literature' of human knowledge and understanding is built, not only in books but also in other scholarly forms such as journals.

The place of **publishers, printers, agents and booksellers** loom large in book history, and in our own preoccupations in this Report. In many senses these contributors are awkwardly interposed between scholar

authors and scholar readers, often leaning on the former to distort their purpose and texts, introducing the simultaneously pleasant and unpleasant topic of money into the arena, and frequently affecting the outcome of a scholarly endeavour positively or negatively through their sins of omission or commission. We have seen in previous sections of this Chapter how the agendas of publishers and retailers can seriously distort the intrinsic character of book publishing in particular regions; the advent of digital publishing holds some promise in this regard (see below).

The above-mentioned appearance in book history of theory concerning the role of **readers** brings up an aspect of our topic that may be quite important. Scholarly books, not only because of their length, require a form of reading that is different from that usually employed in reading shorter works. Time spent in reading the full argument presented in a monograph is generally time extremely well spent. This also applies to a collected work in which different perspectives and facets of a topic are fully explored. Scholars moving from one field to another frequently find that immersion in a book works a great deal better than multiple dipping into miscellaneous sources on the topic concerned. The deep theorising that has recently been done on the nature and role of reading helps to underline the fact that the transfer of authored material into the mind of individual readers is not equivalent to the pouring of water-turned-into-wine into so many identical empty vessels, far from it. The power of a good book is its ability to become part-and-parcel of diverse mental worlds, including the summative world of the accumulating scholarly 'literature'.

Recommendations arising from this Chapter

The Panel recommends that the publishing (or co-publishing) of high-quality scholarly books (monographs and collected works) in South Africa and elsewhere should be strongly encouraged and supported because of the contributions that the kinds of 'deep' scholarship made possible by such publications can render to building the reputation and increasing the impact of the research system of the country. By the same token, writing books or contributing to collected works that are published by prominent publishers elsewhere is manifestly also to be encouraged and supported.

(Part of the rationale for this recommendation has been developed in this Chapter, and will be supported in later sections of the Report. Ultimately, the publication of scholarly books within and from the country has to do with the urgent need for leadership in research and scholarship, expressed by the ability to generate highly authoritative, fully evi-



denced, and well-reasoned treatments of major topics of central concern to the country's people. Having large numbers of qualified and active researchers and scholars in South Africa, drawn from all its members of its population, is an important target of a programme to generate the 'human capital' necessary to bring prosperity to all, and to address major national challenges. There must, however, be scholars/scientists who can 'think big' and provide the powerful intellectual driving force needed to maximise the benefits of such human development. The ability to achieve high-level new syntheses in book form is one of the most direct expressions of such a leadership cadre. In addition, the generation of collected works through cooperative work by senior scholars specialised in different aspects of problem areas is an effective engine of practical collaboration and creativity.)

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CHAPTER 2

Background on scholarly books and publishing in Africa/South Africa

In this Chapter, we examine South African scholarly book publishing in an international context, both with respect to Africa as a whole, and more widely. We begin to elucidate its nature, and to explore its strengths and weaknesses, using information provided by a commissioned report produced by CREST at the University of Stellenbosch. We ask whether it is sufficiently well-developed and whether it is integrated into 'the literature', locally and internationally.

Africa imports the great majority of its books, mostly from Europe and the United States, and **produces less than 2% of the world's books** whilst accounting for 12% of world population. The **limited overall book market** on the continent is also negatively influenced by high levels of taxation (duties and sales taxes), poorly organised retail systems, first-language diversity, and sectoral inflationary pressures.

Most authors agree that the additional causes of the **precarious position of scholarly publishing in Africa** are low university library budgets and a general impoverishment of academic staff, associated with a weakly developed 'wide reading' culture; in addition, regional trade in intellectual materials is growing off a weak base.^{1,2} There are, however, great variations with regard to publishing between various countries in Africa in terms of historical development, regular readership and market size, printing and publishing technology, and communication infrastructure. These differences, to a large extent, reflect the state of development and the contemporary economic and political situation of the individual countries.

Certain problem areas, however, cut across these differences: inadequate access to capital, the high price of many raw materials, and the shortage of qualified staff are often associated with a poor aesthetic and physical quality of books, despite high production costs. Underdeveloped marketing and distribution systems, the dominance of external publishers, inadequate book development policies, and difficulties in export, in particular in intra-African trade, are challenges confronting



the African publishing industry.^{2,3} The shortage of qualified editors and professional illustrators and designers is one cause of this situation. Authors also pay between 5-25% tax on royalties. In addition, local branches of multinational companies are taking profits back to their home countries and African manuscripts are even printed in Europe and then imported back to the continent.

Despite this negative picture, the **African publishing industry** as a whole is showing growth not only in the textbook-publishing sphere but also in general book output. In 1997, South Africa had 120 active publishers and generated 2 500 new titles, compared, for example, with Malawi with a total of 13 active publishers and 65 new titles. The leading publishers of academic books, novels and children books in South Africa, Kenya and Nigeria now also offer scientific books which were once a scarce-‘commodity’.

While **book fairs** are playing an increasingly prominent role in external marketing and promotion of publications across borders, many publishers are still to a large extent unfamiliar with trade policies and legislation in the book trade, and few are registered or even aware of trade forums. South Africa, Namibia and Kenya are the only countries that offer formal **training in publishing**. National repositories of information on authors, publishers, booksellers and librarians are non-existent.

African university presses also face the same range of challenges, overcoming the burden of economic problems, political instability and unemployment, to name but a few.³ The University of Dar Es Salaam in Tanzania has decided to retain its publishing capacity, but the University of Nairobi Press in Kenya, while still operating, has not produced many publications (East African Educational Publishers and Acton Publishers are filling the gap in the scholarly publications market place.) In Nigeria, although there is a large number of universities, only few university presses exist, and their role is more that of a service provider than a scholarly publisher. The University Addis Ababa Press in Ethiopia remains focused on textbooks and publishes only a few scholarly monographs.

In a useful summary of the major interventions and initiatives that various role-players might take, Makotsi and colleagues have listed the key priorities¹ (Table 2.1). Darko-Ampem has expressed the opinion that publishing in Africa has now reached a level of quality and quantity that is a sufficient base for considerable growth: the status of publishing in Africa has gone up, there is a younger generation of men and women publishers with entrepreneurial skills and international connections, and

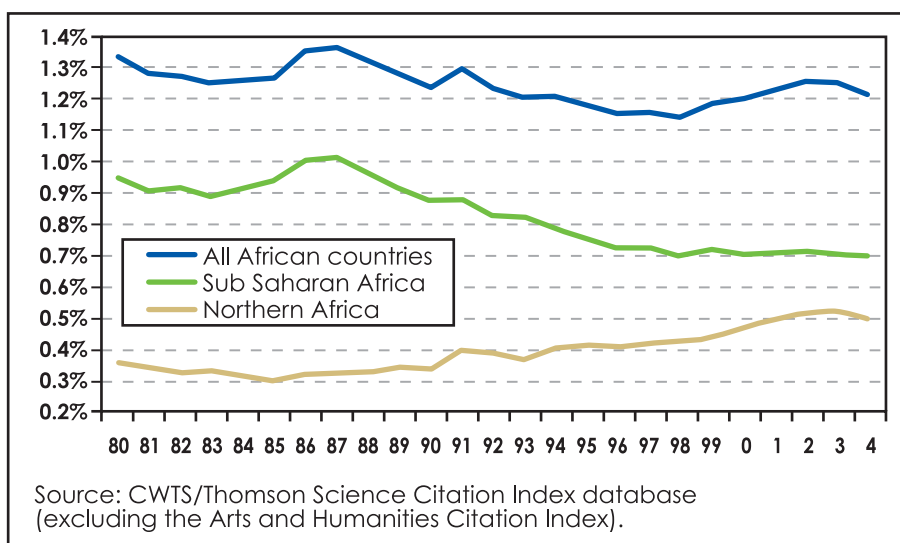
there are general improvements in terms of school enrolment and literacy levels.² There is also optimism about the role that **APNET (the African Publishers Network)** has started to play in its short period of existence, linking publishers within, and between regions in Africa, and enhancing the capacity of African publishing. APNET's structure allows the network members to have an adequate understanding of the publishing scene in constituent countries.

A more detailed breakdown of Africa's share of world scientific output is provided in Figure 2.1.

Table 2.1: Activities to be undertaken by government, publishers, national publishers' association and writers' associations

Body/ Organisation	Activities recommended to be undertaken
Government should:	Review liberalisation policies to build capacity in national publishing and bookselling to ensure foreign investors have substantial local partners
	Broaden range of book provision for schools to include material in local languages and supplementary readers, as well as core textbooks
	Provide tax exemption facilities for book-production components such as paper and equipment
Publishers should	Increase royalties to authors, especially on academic books, in order to increase production of exportable titles
	Expand publishing programmes to cover wider range of books on academic, professional, social and environmental subjects, as well as children's books, novels and reference material
	Accentuate marketing strategies using catalogues to publicise their lists; by identifying credible cross-border trading partners and by participating in continental book fairs
National Publishers' association	Need to publish and distribute 'Books in Print'; establish research and documentation centres and organise book fairs and book weeks on a regular basis
Writers' associations	Form a pan-African body to co-ordinate training of authors in order to improve and increase authorship in less popular subject areas

Figure 2.1: Trends in Africa's share of world science



Scholarly publishing is only able to flourish in a context where there is a sustained and robust production of knowledge. Unfortunately, it is now well-known that **Africa's scientific output**, as measured by articles in the ISI databases, has been steadily declining over the recent past, both in absolute terms and as share of world output. The 68 945 research articles published in ISI-indexed journals with at least one African address between 2000 and 2004 represented only 1.8% of world output, with India producing 2.4% and South America 3.5%; just over 50% of the total emanated from just two countries, South Africa and Egypt.⁴ Only 0.1% of patents registered at the US Patents Office originated in Africa, with 88% of these coming from South Africa.

Scholarly Publishing in South Africa

South Africa has the **largest publishing industry in Africa**, and academic publishing (which comprises scholarly publishing and higher education textbooks) accounts for about 10% of the industry's turnover.

The **textbook market** for first- and second-year students is dominated by South African publishers, whereas British and American publishers supply most of the textbooks for senior undergraduates and postgraduates.

The most comprehensive, up-to-date and detailed information on academic books in South Africa has been provided by regular surveys conducted by a research team at the University of Pretoria. In their most

recent report on the book retail industry in 2006-7, they provided interesting information on the shape and size of the industry; distinctions are made between trade books, educational, academic books and scholarly books.⁵ The total net turnover of the book trade in 2007 was R 2 989 million, representing about 0.15% of GDP.

Table 2.2: Total net turnover per industry in 2007 ('000s)

Trade	R 737 096	28 %
Educational	R 1 484 930	57 %
Academic	R 408 814	15 %
TOTAL	R 2 578 840	100%

Source: Galloway and Struik.⁵

Of the 'academic' sector, local and imported university-level textbooks constituted the largest group, at a turnover of about R 206 657 000, while local and imported 'professional' books lay at R 196 502 000, and local and imported 'scholarly' books constituted a miniscule fraction at R 3 166 000 (under 0.8%), of which about half was of local origin. It is clear that 'scholarly' publishing is a marginal segment in the field of academic publishing, even though local publications appear to be holding their own against the huge potential volume of imported publications. The market for 'scholarly' books is made up largely of academic staff/scholars, and postgraduate students. The figures for 'professional' books are surprisingly high, by comparison, and it is likely that some overlap in operational definitions may be responsible. There is, nevertheless, a pointer here for further consideration of the issue of target audiences for scholarly books, and for the typology of scholarly books themselves (see Chapter 5).

South African Scholarly publishers

The Publishers' Association of South Africa (PASA) considers only a few local publishers to be **scholarly publishers**: University of Cape Town Press, University of KwaZulu-Natal Press, UNISA Press, HSRC Press and Witwatersrand University Press, as well as Juta, Oxford University Press SA and Cambridge University Press, Africa Branch.

Evans and Seeber⁶ have described the rather problematic beginnings of **university presses** in South Africa, which during the apartheid years led to the likes of private firms such as David Philips, Ravan and Ad Donker

becoming dominant in the arena of academic publishing. University presses are still faced with the problem that local academics are not keen to purchase these books as they generally view imported titles as being of superior quality and readily obtainable through the internet, making up for the deficits in local bookshops. The high occurrence of illegal photocopying has also had a harmful effect on book sales. As a result, the university presses have had to address the general trade market, as opposed to the scholarly market, in a departure from their core business.

While university presses often seek to **diversify their lists**, they nevertheless maintain their commitment to publishing scholarly work; it is, after all, part of their institutional remit to do so. But commercial academic publishers are not tied to the field of academic publishing in the same way. If the sales of scholarly monographs were falling to unsustainable levels, commercial publishers could wind down their scholarly publishing programmes and in extreme cases, exit the field.

The paradoxical outcome of this logic is that scholarly publishers can only remain in the field if they are able successfully to move beyond it. They have to operate in adjacent fields in order to generate the required revenue to sustain the scholarly publishing programme. The economics of publishing scholarly monographs in South Africa has made it very difficult, if not impossible, for a publisher to survive by being active only in the field of scholarly publishing. This phenomenon is not peculiar to South Africa, or developing countries, it has become an international phenomenon as sales for scholarly monographs decline (see below). It is crucial to understand the commercial pressures on publishing in relation to its previously mentioned role in the academe. Academic publishing has become one of the terrains on which the logics of two different worlds – that of the publishing business and academe – come together and clash. The fact that the parent institutions of many academic publishers are important purveyors of academic credentials exacerbates the problem as their publishing arms move between fields and increasingly introduce commercial reasoning to manuscript-acquisition decisions. To be intellectually significant is no longer sufficient to be published. Commonly reported commercial considerations from publishers include class sizes the author(s) has influence over, reputation and peer networks, and subventions the author has access to. These are not inherently problematic, but are a far cry from being published on the merit of one's work. Cumulatively it amounts to a system being guided in a direction at odds with its purpose in the 'research space.'

The economics of scholarly publishing in South Africa

Key distinguishing features of local book and journal publishing are the **financial models** used in their production, and the expectation of host institutions (in the case of university or science council presses) that 'at worst, break-even' business plans are mandatory, i.e. that cross-subsidisation from other revenues is not appropriate. Scholarly books require a significantly higher risk investment, as there is no subscription base to provide a level of guaranteed income, it is a one-off product which can miss the (smallish) market for numerous reasons, and, importantly, it is generally costly to produce and promote the published products successfully. Therefore the 'gold standard' of a primary scholarly emphasis on which these publishing enterprises should depend is actually a very precarious business proposition. A potential sea of competitive imported products from developed countries does not help a small and fragile local industry.

The primary **cost driver** in the book-publishing industry is the principle of '**economies of scale**' – the more units you produce, the lower is the unit cost. This characteristic is the main source of woe for the local scholarly publishing industry, as its market is not only relatively small, but has also become increasingly specialised and fragmented, so that institutional book budgets are increasingly used for information technology infrastructure, which in turn further decreases the scholarly book market. In short, the publishing business model is dependent on scale in a context where the scale is decreasing from an already low base. Conventionally, supply and demand in a market are usually brought into equilibrium through changes in price, but owing to the nature of the scholarly book market this single variable will not suffice to create a vibrant market. The potential for market failure therefore is very high. The market as it is currently structured simply finds it difficult to satisfy both the requirements of those supplying works of scholarship and those demanding them.

The increase in **co-publishing** involving both a local and an 'international' publisher takes account of the combined advantages of local promotion and interest, and of international partnering with publishers who can both enhance the basic quality of a book and augment sales (and impact) outside the country.

When one frames these issues and trends within the context of the furtherance of scholarship as a public good, it raises the question as to whether scholarly publications should be considered public or merit



goods. Generally **public or merit goods** are those that the public values but which the markets find difficult to allocate because individuals cannot, or should not, be excluded from their consumption. Works of scholarship fall into this category, as society as a whole is worse off if access and production are restricted. Therefore some form of **publically funded intervention** is appropriate (see later sections).

It is noteworthy that the libraries of South African higher education institutions have been able to create **regional consortia** (with the help of several overseas charitable foundations) to achieve considerable gains in buying power with respect to both materials and access licences, co-ordinated purchases, shared facilities, and improved service levels.⁷ This kind of approach seems tailor-made for the scholarly publishing activities of many of the same institutions, building on existing university and other presses, combining book and journal publishing, and establishing platforms on which separate imprints can still flourish.

The current ASSAf project to establish a South African site of the South American **SciELO (Scientific Electronic Library Online)** system⁸ is aimed at providing free-online open access worldwide to indigenous scholarly journals that have been recommended for admission to the platform by discipline-grouped peer review. Public funding of the platform has been agreed by the Department of Science and Technology, at least for the three-year start-up phase. The system is premised on continuation of editorial processes and the production of many print editions, based on existing and/or new sustainability measures to cover the considerable residual costs. A case can be made for combining the publishing of a large number of such journals (those that emanate from university or science council presses) with the publishing of scholarly books (and other academic materials) in enhanced organisations that may be consortial in nature, along the lines of the already developed library consortia. Perhaps the **publishing operations could even be aligned with the relevant libraries and institutional repositories** in partnership arrangements to enhance their overall ability effectively to disseminate the high-level scholarship of the groups of institutions concerned. **Shared platforms** offering economies of scale and retention of established brands, supported in a new way by institutions recognising the core nature of these activities, could make the difference between success and failure.

The fact that the SciELO-South Africa platform for scholarly journals will be **free online but 'pay-for-print'** makes it natural to consider a parallel

dual-mode approach to scholarly books. In fact, it is likely that sound business models for dual publishing of books will be achieved quite quickly because of their bulk and consequent awkwardness on computer screens, the much greater continuing appeal of the 'book-in-the-hand' (or the paid-for e-book on an e-reading device), and the much more effective marketing of books made possible by searching, browsing and sampling on the web.

Setting up viable publishing enterprises will obviously need much debate, planning and negotiation, and we are cautious in this Report about prescribing pathways for accomplishing the objectives concerned before these explorations have been conducted. What is clear, however, is that a basis already exists for building a productive national system of scholarly publishing, including that of books.

A commissioned study of books or collected works published in, or from, South Africa

The Panel writing this Report commissioned the Centre for Research on Science and Technology (**CREST**) at the University of Stellenbosch to undertake a study that would provide information on the **status of scholarly book publishing in the country**. Data from the CREST study are used in this, and the following three Chapters.

Data sources

A number of diverse data sources were used in compiling this report: four surveys, information contained in different databases developed by CREST – including a database on monographs and chapters in collected works (2001-2006) – as well as an extensive literature and internet review.

CREST survey on knowledge utilisation undertaken for NACI (2002)

In 2002, CREST conducted a national survey on research utilisation in South Africa under commission by NACI.⁷ Although not designed with this study in mind, the survey provides important information on one of the main themes on the relative importance of books and monographs within different scientific fields. The survey questionnaire was directed at researchers working at South African higher education institutions and science councils, and covered various aspects of knowledge pro-



duction, dissemination and utilisation. Respondents were asked to select research projects that had been completed during the previous five years, where the respondent had either been the project leader; or had devoted significant research time and resources. In addition, projects could have been stand-alone pieces of research or embedded within longer-term research programmes. Respondents also had to indicate the main scientific field(s) of the project activities from a list of 18 fields provided, and further classify them within a single subfield or any combination of subfields; thus multiple fields per project applied. The project leaders were also asked how they communicated the results of their research projects: they had to select from 27 listed modes of communication, of which five represented modes of scholarly publication, namely articles in peer-reviewed scientific journals, books/monographs, chapters in books, published conference proceedings, and articles in refereed technical journals. Details of 1 803 projects were received.

CREST survey of journal and book authors (2007)

Many of the issues identified for investigation in the ASSAf brief are normative issues, i.e. issues that can best be tackled by soliciting responses from journal and book authors as to how they believe that things should be, or ought to be. For this reason, a brief electronic survey was conducted for purposes of this study on a sample of the most productive researchers in higher education in South Africa in the second half of 2007. The 298 responding researchers were assigned to five broad fields, and included 70 from the arts and humanities, 72 from the social sciences, 94 from the natural and agricultural sciences, 42 from the health sciences, and 20 from the engineering sciences and applied technologies.

CREST survey of South African-based publishers (2007)

CREST conducted a web-based survey in October 2007 on the publishing and review practices of South African-based publishers of scholarly books. For the purpose of the survey scholarly books were defined as:

Specialised books produced by academics/researchers, which are normally bought and read by other academics/researchers but may also appeal to wider audiences. Textbooks, study materials and journals are not included.

The full responses of five scholarly publishers were included in the analysis.



CREST database on scholarly monographs (2001-2006)

CREST developed for the purposes of this study a database on scholarly monographs produced by universities, by integrating data from two sources:

- (1) The 10 universities with the highest annual research output were contacted and permission asked to receive their monograph and chapter submissions to the DoHET; all 10 universities agreed. The universities contacted were the Universities of Cape Town, Free State, Johannesburg, Nelson Mandela Metropolitan, North-West, Pretoria, Rhodes, Stellenbosch, and the Witwatersrand. With the exception of the Universities of Cape Town and Rhodes which provided submission data only as from 2002, the other universities all provided data from at least 2001 up to 2006.
- (2) The DoHET was also approached and asked for permission to access the latest monograph and chapter data submissions received from all universities; this was kindly provided. The monograph and chapter entries in this dataset were published between 2006 and 2007.

These two datasets were integrated and converted into a MS Access database and the database submitted to a process of screening, cleaning and standardisation. For instance, duplicates were removed in cases where two or more universities listed the same chapter or book entry due to inter-university co-authorship. Web searches were also performed (e.g. in Google Books) in order to determine the publication year and publisher of each book where this information was missing. Various other tasks were also performed, such as assigning a unique code to the same authors.

Eventually the database was split into two separate databases: one for monographs and one for chapters in collected works. Both databases covered only publications produced between 2001 and 2006 – the 2000 and 2007 entries were removed because their numbers were unrealistically low compared to those for the years 2001 to 2006. The monograph database contained altogether 389 unique entries, and the collected works database a total of 2 780 chapters in 1 333 collected works.

In both databases an important variable is that of the broad field concerned. Each of the 389 monographs and 1 333 collected works was assigned to one of the same five broad fields mentioned above:



humanities and arts; social sciences; natural and agricultural sciences; health sciences; and engineering sciences and applied technologies. This was done by utilising a variety of information sources: the DoHET CESM categories allocated to some monographs and collected works, available Dewey numbers, the departmental or faculty affiliation of the authors and the title of the monograph or collected work itself.

As far as publishers were concerned, apart from standardising publisher names, two additional fields were created: a field that indicates the location of the publisher (South African or foreign) and, in the case of South African publishers, a field that classifies the publishers into one of five categories: (1) commercial publishers, (2) university presses/publishers, (3) university institutes/ centres, (4) science councils, and (5) research institutes/ associations/ societies/ museums.

A special feature of the monograph database was that it also contains details on 308 **published reviews** of these monographs. The reviews concerned were published between 2001 and 2007 and were obtained from the websites of Sabinet (Index to South African periodicals – ISAP) and the ISI (Web of Science). Three fields from the review dataset were used in this study: the year of publication of the review, whether or not the review appeared in an accredited or non-accredited South African journal, and whether or not the review appeared in an ISI-indexed journal. Additional fields in the review dataset were the names of the journals in which the reviews appeared, the names of the review authors, and, in the case of reviews in ISI-indexed journals, the institutional affiliations of the review authors.

A further addition to the monograph database was the capturing of **citation figures** for the 389 monographs (see Chapter 4). The titles of these monographs were searched in Google Scholar during November 2007 and the total number of citations for each monograph recorded. During analysis it was decided to exclude monographs that were published in 2006, given that the period between publication and the Google search was too short for the 2006 titles to be optimally cited. The citation profiles produced for Google Scholar were therefore based on a total of 332 monographs, of which 170 were cited in Google Scholar.

A small sample of 53 monographs was taken from the 332 monographs and subjected to in-depth citation analyses. The 53 monographs were selected in two ways: firstly, by concentrating on monographs from the earlier publication years (2001, 2002 and 2003) and, secondly, by ensuring that the broad field distribution of the sample corresponded to that

of the larger pool. For each of the 53 monographs the following were determined:

- whether or not the monograph was cited in a book on Google Scholar – if cited, the number of citations received in books together with the number of self-citations was ascertained;
- whether or not the monograph was cited in a journal on Google Scholar – if cited, the number of citations received in journals as well as the number of self-citations was recorded; and
- whether or not the monograph was cited in the Citation Index of the Web of Science (ISI) – if cited, the number of citations received in ISI journals was recorded, together with the number of self-citations.

SA Knowledgebase

SA Knowledgebase (SAK) is a **database of research output in South Africa**, developed by CREST. SAK aims to deliver comprehensive, accurate and up-to-date information about article publications from 1990 onwards. The database collects bibliographic information (excluding citations) on articles with South African author addresses which have appeared in journals accredited by the South African Department of Higher Education and Training. Information on the article title, article keywords, authorships, journal title, journal publishing detail and journal field in SAK is captured from two bibliographic indexes – ISAP in Sabinet, and the Web of Science. SAK includes all articles with a South African address appearing in the Web of Science and in, the case of ISAP/Sabinet, only articles appearing in a journal that has been approved by the DoHET.

Although the focus of SAK is on DoHET -accredited journals, SAK is not limited to articles produced by the South African higher education sector. It also includes, among others, articles produced by researchers at the science councils, national research facilities and government-based research institutions. The database also provides extensive author-specific information by disaggregating the article output in terms of selected demographic variables (gender, race, year of birth, age at time of publication, highest qualification, and institutional affiliation), as well as scientific field (243 ISI journal categories, and a scientific field classification framework developed by CREST). The linking of these demographic data to the article authors is an on-going task; since 1998, CREST has drawn on a variety of sources (including its own national surveys; requests for demographic information from South African higher education institutions and science councils; as well as web searches) to add the demographic information of the authors of these articles. At present, SAK contains more than 115 000 journal articles published by 90 600 authors, of which about 63 000 are South African authors.

Data from SAK were used as follows for the purposes of this report:

- The 20 most **productive article authors** in each of the five broad fields were identified and the total number of articles per author calculated by field. The author names were searched in both the monographs and collected works databases, resulting in a new dataset where, for each author, the number of monographs and number of chapters in collected works were linked to the number of articles produced. This was done in order to establish whether or not productive article authors had also produced monographs and chapters in collected works. Because SAK was being updated at the time of analysis comprehensively to cover all journal articles up to 2007, the article period covers only the years 2001 to 2004, but the period for monographs and collected works was from 2001 to 2006.
- The **most productive monograph authors** were identified (those with at least two monographs in the monograph database) and the names of the authors searched in SAK. For each author it was established whether he/she had produced any articles between 2001 and 2004. The resulting dataset contained both the numbers of articles and monographs per author, as well as the numbers of chapters in collected works produced by these particular monograph authors.
- The **most productive authors of chapters in collected works** were identified (those with at least three chapters in the collected works database) and the author names searched in SAK. This provided in a dataset where, for each productive chapter author, the number of articles published between 2001 and 2004 (obtained from SAK), the number of chapters (obtained from the collected works database) and the number of monographs (obtained from the monograph database), could all be determined.

Some background on ISI-indexed and other South African journals

One of the pillars of the research-funding framework of the DoHET is the system of accredited journals that it manages, and awarding of 'research output subsidies' to institutions, over 90% of which are for articles published in peer-reviewed journals. The system was established in 1985, but revised in 2003-4.⁸ From then onwards, articles published in three categories of journals have qualified for the research subsidy amount:

- Articles published in journals included in any one of the three Citation Indexes (Science Citation Index, Social Science Citation Index and the Arts and Humanities Citation Index) published by Thomson Scientific (previously ISI).

- Articles published in a journal included in the International Bibliography of the Social Sciences (IBSS) published by the British Museum and the London School of Economics.
- Articles published in a journal included in the list of South African journals accredited by the DoHET and reviewed on a regular basis.

There are currently at least 255 South African scientific or scholarly journals recognised by the DoHET as meeting the minimum requirements for state subsidy under the policy of supply-side support for authors (through block grants to their institutions) who publish in these journals.⁹ Thirty-two of these journals currently appear in one of the ISI Citation Indexes, 14 are indexed in the International Bibliography of the Social Sciences (two journals appearing in both), while the remaining 220 journals are 'accredited' separately by the Department (2003 list and 2004 supplementary lists).

The criteria that these non-indexed scholarly journals had to meet in order to be accredited by the DoHET were the following:

- The purpose of the journal had to be to disseminate research results, and the content had to support high-level learning, teaching and research in the subject area concerned;
- The journal had to have an ISSN (International Standard Serial Number);
- The journal had to be published regularly (frequency of publication);
- The journal had to have an editorial board that was reflective of expertise in the subject area covered;
- The members of the editorial board had to have standing in their respective subject areas in terms of their own peer-reviewed research, through publications and citations;
- Articles accepted for publication in the journal had to be peer-reviewed;
- The journal had to be distributed beyond a single institution (holdings of South African and/or international Libraries were the standard against which this criterion was measured).

A comprehensive analysis and critique of South African journals in this non-indexed list was included in the 2006 ASSAf Report¹⁰, and published by Mouton, Boshoff and Tijssen.¹¹ The ASSAf Report also examined the DoHET research output policy in depth, and made ten recommendations for enhancing the quality and visibility of South African scholarly journals.

Recommendations arising from this Chapter

The Panel recommends that a national Scholarly Book Publishers' Forum should be established under the auspices of the Academy as a 'companion' to the already existing National Scholarly Editors' Forum relating to journals published in South Africa.

(The existence of a National Scholarly Book Publishers' Forum run under the auspices of ASSAf would provide a useful tool cooperatively to approach the systemic issues addressed in this Report. Terms of reference for such a Forum could be modelled on those already accepted for the Editors' Forum, and aligned with existing organisations such as the Publishers' Association of South Africa, PASA.)

It is further recommended that some form of organised and sustainable national book publishing support system be established to create a climate in which book-publishing decisions can be freed of purely commercial considerations. This could be linked to a system of regionalised and/or partially centralised consortial infrastructure to support the publishing of scholarly books and journals, which could include components for distribution and logistical infrastructure, co-publishing or other platforms for international marketing and promotion, and a national internet platform for open access publications. Alignment with library and repository functions at institutional and other levels could enhance the development of new kinds of organisations centrally focused on the core mission of scholarship.

(One useful, micro-level element of a new approach to book publishing could be an institutional system in which a given and generally agreed percentage of production expenditure is earmarked for the internal subsidisation of those publishing costs of scholarly books produced by scholars on the staff that are not legitimately coverable by commercial publishers. An additional or alternative systemic approach, based on the system in Canada, could be the setting up of a national fund to subvent the publishing of scholarly books. The recommended third approach is to strengthen the existing scholarly presses by setting up consortia, well-developed forms of regional and national collaboration, as a highly appropriate response to meeting cost pressures and small markets, creating economies of scale and making it easier to focus on the core role of scholarly publishing. Higher education institutions need to reflect deeply on the true role of university presses in disseminating distinctive products of high-level scholarship.)



The Panel also recommends that the principle of maximising open access, already recommended by the Academy for scholarly journals, be extended as far as possible (and with careful attention to sustainable business models) to books published (or co-published) in South Africa, with the adoption of formats and technology platforms compatible with bibliometric requirements such as citation indexing and information-rich online features.

(Experience, for example, that of the HSRC Press in South Africa, has shown that online availability may significantly enhance the marketing and sales of print copies of scholarly materials. If business models demonstrably prevent moving in this direction, dual print-plus-electronic publishing is an option that enhances access on the part of (paying) users, associated with, or following, online browsing of sections of the relevant indexes and even text. Citation indexing is only compatible with print-only publishing of books if publishers provide electronic access to their materials to indexing operators. The growing importance of institutional repositories (in which only e-versions of books or book chapters can be deposited) and the increasingly common requirement of both public and private funders for placement by authors of publications in open access journals or repositories, point inexorably to a future model for the publishing of scholarly books where the dual mode of 'pay-for-print' and 'see for free' will be the standard. It appears that this is compatible with enhanced, or at least viable, commercial publishing.)

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CHAPTER 3

The use of scholarly books in academe

In this Chapter, we examine a number of aspects of how academics see scholarly books. Why is peer review so important? How highly are books valued and how much are they cited? How are they rated in comparison with journal articles, and to whom are they addressed? How are scholarly books distinguished from other books?

The answers to these questions are pivotal to the development of a deep research culture, and to optimal policy formulation for the national system of innovation.

Self-regulation of 'the scholarly literature'

The scholarly publication system, represented by what is called by countless practitioners '**the literature**', is one of the last remaining residues of the medieval period that still practices self-government. This is because what goes for innovation and new knowledge is largely determined by knowledgeable insiders of what has been called the 'republic of science'.¹ Despite periodic calls for the 'democratisation' of this internally regulative autonomy, and despite periodic threats to its integrity from certain states and the market, it has proved remarkably robust. The principal instruments of scholarly self-government within 'literature', which is housed mainly in scholarly journals and books, are the practice of **peer review** allied with the **discretion exercised by editors**.² Yet the idea of 'peers', and peer review itself, is full of what Merton has called 'instructive ambiguities'³, some of which deserve brief attention in this introduction, and most of which apply to quality assurance approaches in books as much as they apply to journals.

The special, additional 'peer review' roles of **editors** in the publication of books and collected works will also be unpacked in this Report (see below).

Who are the 'peers'?

The first ambiguity concerning peer review lies in the very **concept of 'peer'**, which in current usage generally denotes equality of standing



and status, as well as of disciplinary and/or topical knowledge, between the author(s) and the (generally anonymous) reviewers. Yet coded into the etymology of the word 'peer' is its derivation from the medieval designation of the very highest status, as in 'peer of the realm'. For peer review to work in the scholarly realm, reviewers must be **at least equal** in status and requisite knowledge to the authors (general understanding), and preferably better (actual meaning of the word). The regular and essential practice of using **multiple peer reviewers** for each submission increases the chances that 'operational peerness' will prevail, especially in an age of hyper-specialisation. This yields precisely what the peer-review system is designed to achieve – the apportionment of due recognition for scholarly contribution combined with improvement of the item under review, before publication.

The equality that inheres in the contemporary notion of peer actually has a great deal to do with the application of the **universal criteria** which are put to work when scholarly contributions are assessed as possible additions to '**the literature**'.² Indeed, the reproduction of the entire scholarly system rests on the efficacy by which these criteria are dispassionately employed and deployed by the peer community, in recommending **acceptance or rejection** of a new contribution, and in suggesting their **improvement** as a condition of acceptance for publication.

Key questions about peer review

These considerations lead to two further instructive ambiguities, or perennial question marks, that hang over the trustworthiness of the peer-review system: are all contributors treated **equally and equitably** by the peer-review system, and do all peer reviewers review **dispassionately**? To take the first, the question is whether is there something about some contributors that systematically retards or enhances the conferral of appropriate recognition/acceptance of their submissions? There is some evidence that in certain knowledge fields, (sometimes called 'soft' fields⁴), where the criteria for judging innovation are not shared throughout the community, **new entrants** find it harder than more established workers to gain recognition for genuinely novel work, with the result that 'recognition ages' differ between knowledge fields, from about 23 in mathematics to about 40 in history, for example. This seemingly extra barrier to recognition for new entrants in 'soft' fields, and the self-perpetuating recognition of the already recognised, has been called the '**Matthew Effect**' by Merton.³ Similarly, it seems as if female scholars, in all fields, have a harder time getting recognised, and have to perform

significantly above the levels of their male peers, to gain equivalent recognition⁵, a phenomenon which has been called the '**Mathilda Effect**'.³

Several studies have implied that the **host institutions and geographic locations of authors** influence both reviewers' recommendations and editors' decisions to publish papers in journals.^{6,7} Authors from high-status institutions submitted more manuscripts, received quicker reviews, by fewer reviewers, and were more likely to be reviewed favourably.⁸ The fact that this is not universal is shown by an analysis of manuscripts submitted to the journal *Social Problems*, where the institutional associations of authors had very little, if any, influence on editors' decisions.⁹

The likelihood of eventual publication has been found to be roughly proportional to the number of times a manuscript was submitted as a result of **revision**, and to the number of days required to reach publication decisions.¹⁰ The frequency of **multiple authorships** in papers from the physical and biological science may be one of reasons for the higher acceptance rates in these journals in these disciplines, as group participation adds another form of pre-submission expert review. Manuscript review and re-submission processes are thus vital to the construction of scholarship.

Strong evidence exists, at least in the biomedical sciences, that journals tend to publish papers which present statistically significant (**positive results**), presumably on the recommendation of the reviewers concerned; a survey of authors of published and unpublished clinical trials found that non-significant results were considered the main reason for rejection of papers¹⁰; a noteworthy example in this regard is the one undertaken in 1990 when a fictitious manuscript was submitted in two versions to 146 social work journals in an attempt to demonstrate their bias towards positive results; reviewers of the positive version of the article accepted it more readily than did the reviewers of the negative version.

Disciplines vary in the way that reviewers do their work.¹⁰ For example, referees used by natural science journals generally rank **replicability of research** techniques as a key criterion, in contrast with their social science counterparts. The social sciences and humanities journals have much **lower acceptance rates** than do journals in experimental sciences, while varying widely amongst themselves, as for example between history and linguistics. This must reflect systematic differences in the way that reviewers apply criteria and standards in performing their functions, although little is known as to what such differences might be.



The objectivity of peers

The second major issue in this area is that of **peer disinterest**, which has been under the spotlight for a long time. Certainly, scholars are not, in the normal run of their work, disinterested actors, evincing as they generally do a well-documented keen interest in their own recognition, which, when it comes to priority, they frequently seek to achieve at the expense of their peers. When the *Double Helix* by James D Watson first appeared, the scientific community (as well as the public at large) was scandalised to see how the author unashamedly trumpeted the fact that he and co-author Francis Crick had 'pipped Linus Pauling to the Nobel post'. Of the many other examples that could be given, that of Isaac Newton remains particularly instructive. Newton was, despite all the lustre heaped on him in his lifetime, obsessed with establishing his originality. His contemporaries, amongst them Astronomer Royal John Flamsteed, found him 'always insidious, ambitious, and excessively covetous of praise'.³ His lifelong attempt to establish the priority of his invention of the calculus (when he was just 23) over Leibniz' rival claim led him to mount at least twelve defences in print of his claim. Eventually, when president of the Royal Society, he packed the committee with his supporters, himself writing the preface to the report anonymously, which declared him the winner.

Does this mean that peer review as a systemic practice is fatally biased because of the rivalry in the field? The answer is probably no, in fact, the development of disciplinary fields appears to require this kind of **competition** in order to prosper¹ and without this *libido sciendi*, many scholars would not strive to be first with an original contribution, or persist in the face of adversity. Nor is it to say that, when judging the work of others as in peer review, the great majority of scholars do not usually set aside their own interests in the common interest of the field. The important task of reviewing is in most instances carried out entirely by volunteers and experts who are not compensated and spend an enormous part of their working time on these and related voluntary tasks. This **commitment** exists for a number of reasons: to have privileged access to recent advances in a discipline; to be stimulated to perform intellectually enriching 'close study' of important intellectual products; and the desire, based largely on **reciprocal altruism**, that other authors' ideas and work will be given credit and general attention.

Certain measures are also often applied to **minimise the risk** of this kind of bias. As further discussed below, **blind reviewing** is obviously helpful in this context to start with. Good book editors routinely avoid placing

rivals in untenable positions, and many presses and journals ask potential contributors to **list reviewers they would wish not to review their work**.

Most journals make use of one, two or three referees when reviewing individual submissions. In an article on peer-review practices, the question was asked whether reviewers were **adequately qualified** to evaluate manuscripts and a study cited which had shown that 31% of reviewers from the *American Journal of Public Health* had not been listed as authors of a source publication in the 1987 version of the Thomson scientific Science Citation Index and that 15% had not been cited at all.¹⁰ The anonymity of peer-review processes is thus a potential quality problem in journal publishing, easily but only partially overcome by periodically publishing a **list of peer reviewers** employed.

Partiality in the appointment of referees is another potential source of bias. An analysis of seven economics journals showed that almost 12% of referees were from the same university department as their colleagues, the editors.¹⁰ The most eminent and experienced scholars are not always selected as referees due to known busy schedules and deadlines, so that editors are compelled to deploy less eminent, younger but more amenable colleagues.

Reviewers often agree on acceptance or rejection of papers for different and sometime conflicting reasons.¹⁰ Reviewers' comments frequently focus on different aspects of manuscripts, so that **multiplicity in peer review** is virtually mandatory.^{11,12}

Diversity of opinion can be a particular problem in the 'soft' disciplines, where reviewers may not share the same intellectual framework, definitions of research questions, and 'accepted ways' to answer them. Where framework wars are particularly fierce, the intellectual community can be particularly prone to schism.

Peer review as a flawed, but best-available guarantee of quality

Two types of **errors** may occur in the evaluation of manuscripts: papers that should be published are not accepted for publication, or papers are accepted that should not have been. A study of articles that were rejected by *Angewandte Chemie* established that 88 of 115 rejected articles were subsequently published elsewhere^{13,14}; this could have been due to hierarchical issues in the field, or to genuine reviewer error or bias. A different study of the statistical procedures used in 28 papers accepted by a particular journal raised serious doubts as to the accu-



racy of reviewing: four of the papers should have been rejected, seven needed major revisions, and eleven required minor changes.¹⁵ While these phenomena may be field-specific, editors have to be cautious in their consideration of reviewers' recommendations, and the whole matter emphasises the necessarily subtle interplay between the respective roles of referees and editors, and the importance of **published editorial guidelines** for each journal that explicitly addresses these risks.

The practice of **blind refereeing** is usually regarded as the proper mode of review, ideally double-blind review, where neither the reviewer nor the reviewed know each others' identity; this is intended to decrease the potential for reviewer bias. In a study by McNutt which involved the analysis of 123 manuscripts reviewed in each case by both a 'blind reviewer' and a traditional reviewer who was in full possession of the author details: 'Blind reviews' improved the quality of the reviews from the editor's perspective, but authors reported no difference in the quality of both types of reviews, finding the reviewers similar with regard to courteousness, fairness and knowledgeability.^{cited in 16} Many editors and reviewers continue to argue that their assessments require knowledge of the authors concerned.

The multiple purposes of peer review

It is worth pointing out that there is no clear consensus in the literature on the **main purpose(s) of peer review**. Some see it as a measure of **quality control**, others as a mechanism to ensure that newly published work is **scientifically interesting**¹⁷, while yet others see referees as '**hatchet people**' whose role is to limit the unmanageable size of 'the literature'. There does seem to be agreement, that refereeing alone minimises but does not **eliminate fraud** or other unethical practices. An increasing number of scholars are advocating that it remains the responsibility of authors to **verify their data**, not that of the referees concerned. Some scholars view the referees' role as **purely advisory** to editors, which suggests that peer review is not sufficient as a gate-keeping process, but part of a broader selection process. In most fields, peer reviewers are viewed negatively, as looking for errors and rarely accepting articles without extensive and unnecessary revision, policing and suppressing, rather than identifying and supporting works of potential interest to other readers.

The biomedical profession has taken potential threats to the integrity of peer review very seriously, and has since 1986 held a four-yearly international conference specifically to deliberate on optimising the prac-

tice of peer review. A number of prominent journals have formally identified the need to interrogate the assumptions of this time-honoured practice, and have experimented with new models, including several versions of 'open access' peer review. In an editorial, Rennie commented: "Sixteen years after the initiative started, we find ourselves in the peculiar position of believing still more in the virtues of peer review, a system we know to be time-consuming, complex, expensive and ... prone to abuse."¹⁸ Peer review has also been described as **"crude and understudied, but indispensable."**¹⁹ In other words, while peer review may have its problems, which need to be addressed as far as this can be done without negative counter-effects, it is still clearly the least-flawed system we have for evaluating, accepting, and improving contributions and advances to knowledge. (In the conclusion to this Chapter we will briefly review possible alternatives to peer review.)

Peer-review issues more pertinent to books than to journals

Having discussed many generic aspects of peer review in scholarly publishing, applying to both journals and books, we now turn to a different but related aspect of peer review, which is more important in book than in journal publishing, and addresses **purposes of publication** which go beyond the basic issue of approving and improving additions to 'the literature'. We have already discussed in Chapter 1 the types of books and collected works that can be considered both valid and valuable additions to 'the literature'. The complex modes of peer review involved in producing multi-author books and collected works generally include 'standard' independent peer review as described and discussed above, but often go beyond it to move into the domains of editors, in order to embrace issues such as initial **author selection, reciprocal reviews** of their contributions between different authors aimed at generating new syntheses, **aggregate reviews** of chapter sets by authoritative editors to assess the achievement, or not, of new syntheses, and even **positioning in the marketplace** based on scholarly rather than book-trade considerations. All of these conform to what is meant by scholarly peer review, and frequently demand considerably more time, effort and disciplinary maturity than do individual journal articles.

An important form of peer review unique to books and collected works is the formal **post-publication review** usually placed in the open domain in journals, and often also in lay media such as newspapers and magazines. The gist and tone of such published reviews are significant determinants of the sales of the works concerned, and therefore of their



dissemination in the scholarly community and the desirable discourse associated with it. Selection (presumably by an editor or editorial team) of a book for review in a prestigious journal is probably worth as much as dozens of citations.

A comparison of peer review in journals and books

Any comparison of the peer-review processes involved in the publication of monographs, chapters in collected works and articles in reputable scholarly journals has to take into consideration the fact that there is **no standard peer-review process** in any of these three 'domains'. (The fact that peer-review processes used by scholarly journals are sufficiently uniform to have permitted the Academy of Science of South Africa to publish a national code of best practice in editorial discretion and peer review²⁰, with the assent of the (multi-disciplinary) National Scholarly Editors' Forum, does not contradict this statement as the code is couched in ways that recognise disciplinary differences and a degree of variation in practice.) The key, inter-related issues are whether it is possible to make a simple and generalised statement about the quality of peer review in each domain, whether peer review based partly on the purpose of a non-journal publication and partly on an adapted generic approach is appropriate for elements of 'the literature', and whether some codification of such adaptations is possible.

It is useful at this stage to cite the analysis by Clemens and colleagues of the similarities and differences in the publication process of books and journal articles.²¹ (Table 3.1.)

Table 3.1: Comparing book and journal publishing

	Journals	Books
Access	The norm is unsolicited papers – occasionally journal editors will request or solicit manuscripts for special issues of journals. It is generally accepted, though that all manuscripts irrespective of how they 'arrived' at the journal are treated the same and subjected to peer review.	Book publishers treat solicited and unsolicited manuscripts very differently. Roughly 75% of all book manuscripts are unsolicited. The more personally involved an editor is in acquiring a manuscript, the more likely it is to be published. At one major publishing house, of 3 640 unsolicited submissions, only 27 (0.07%) were published; of 940 submissions where the author had some previous relationship with the publishing house 79 (8%) were published and of the 100 manuscripts that editors had personally solicited, 35 were published (35%).
Acceptance rates	The acceptance rates of three prominent American journals are as follows: for the AER it varies between 10 and 12% (between 1984 and 1993), around 12 – 13% for the ASR and between 10 – 15% for the APSR.	Acceptance rates for books are more difficult to come by but the following rates are known for Columbia University Press (2.5% in 1976), Princeton University Press (5.3% in 1981) and Penn State University Press (17% in 1990).
Review process	Journal editors do little evaluation on receipt of a manuscript with review processes highly routinised so that the main issue is the selection of reviewers. Journals differ in the number of reviewers but it is usually 3 or 2.	Book editors do a lot of evaluative work up front. They need to know or establish which intellectual communities would be attracted to the book, whether the book is well written and much work will be involved in publishing the book. For assistance in evaluation most editors turn to the scholarly community for a provi-



		<p>sional review. If a favourable review is received, the editor moves to provisional acceptance. Later, when a complete manuscript is received, many commercial publishers and most university presses will return to the original reviewers to assess the manuscript. A negative initial review usually dampens a publisher's interest. Unlike in journal publishing, a book editor is less interested in summing up a variety of reviews. Current best practice is to use three reviewers both at the proposal and at the manuscript stage.</p>
Distribution	<p>The published discussion of articles, by contrast, is a relatively rare event, except in the case of a published response.</p>	<p>Books are not routinely distributed to many members of a discipline, but they continue to attract attention selectively after publication in reviews and advertisements. Commercial book publishers are concerned with marketability, a consideration journal editors, and at times university presses, can eschew.</p>
Sponsored and contested mobility	<p>Journal evaluation is a more open competition, a contest of resilience and repeated effort.</p>	<p>The book evaluation process is a system in which reputation and patronage can be key; projects are nurtured on the basis of promise and the rewards of accumulative advantage accrue to those who are productive.</p>

This comparison of the production of books and journal articles reveals certain differences in terms of access (a small percentage of book manuscripts are solicited); acceptance rates (book manuscripts seem to have lower acceptance rates than journal articles); review processes (book manuscript reviewing is much more individualised and time-intensive), review criteria (book manuscripts are assessed not only in terms

of their quality but at times also for their purposes, including marketability) and mobility (book reviews can be conducted within a system of patronage and reputation). It is evident that the expanded and adapted roles of editors are the key difference, and much depends on the expertise, judiciousness and meticulousness of these participants.

The Panel is of the opinion that quality assurance in book publishing, especially in the case of collected works, requires the **three levels of examination** to be clearly separated and addressed. The overall **publishing decision** is based on a mix of the work's market positioning and intrinsic quality. The latter depends on the other two levels of assurance: the **collecting, editing and coherence-making function** usually exercised by one or more editors and/or an editorial board, and the **independent peer review of individual chapters**. Where the editor(s) or editorial board members can legitimately carry out chapter-specific, independent peer review (for example in works with a strong disciplinary focus), there is generally no need for outside review, as long as the two levels are addressed separately in the processes and records leading to the publishing decision at the first level. Where these persons cannot adequately provide journal-type peer assessment at the individual chapter level (for example in works that bring together authors from widely differing areas or disciplines), outside peer experts are needed in order to bring the quality assurance level up to that of peer-reviewed journal articles.

The case for this approach includes the likely recognition by 'genuine' peers of **pre- or re-publication** of the essential content of book chapters in journals. While this is not a scholarly 'crime' in the same league as plagiarising the works of others, it should certainly require public acknowledgment in the texts concerned, motivations in respect of possibly differing roles and intentions in publishing journal articles as opposed to book chapters, and honest declarations in reporting and rewarding systems. Another argument in the case for systematic three-level quality assurance is the likely resolution from this approach of the **key questions of originality, primacy, citability and archival value** of particular findings and discoveries. Book chapters characteristically leave out full descriptions of methods, background information, and assorted data, in order to strengthen and extend the main thematic narrative. In this sense, specific, third-level peer review would provide a kind of guarantee for readers of the solidity of that narrative. It would also help to attenuate the consistently lower value usually assigned to book chapters in scholarly evaluations (of which the research outputs weighting model of the DoHET is a good example – see Chapter 4).



Pre-publication quality assessment by South African book publishers

Although the response to the CREST survey of South African publishers was disappointingly poor (only five out of 31 completed questionnaires), the open-ended comments in these questionnaire answers were **pertinent and useful**, and appear to be illustrative of practices followed in the industry.

The general practice of book publishers in South Africa is to use selected, multiple external reviewers to assess the suitability and quality of the content of single-authored, co-authored scholarly books and edited works. This is not always done for every manuscript submitted, however:

In the case of a co-publication, we may accept reader reports from the other publisher instead of sending the books out ourselves for review. But every title must be reviewed (from a university press).

The number of reviewers that are used varies (usually two or three) as does the process followed (for example, both **blind and non-blind reviewing** is used). The following responses are indicative of factors that determine which form of review is used:

Sometimes titles are reviewed by Editorial Board members if they are specialists in a particular field (blind reviews). Board members also suggest reviewers. Authors are not told who their reviewers are, unless the review is positive and the reviewer agrees to his or her identity being revealed; sometimes we let authors see the reviews and sometimes not; sometimes we use snippets from the review to market the book if the reviewer agrees; there is not one approach across our lists. It all depends on the circumstances. We tend to employ more reviewers if we are concerned about quality, if the book is controversial, or if we want to sell rights internationally (from a commercial press with university imprint).

Reviewers are given the option of whether or not to identify themselves in their review reports. The default option is double-blind review (from a university press).

If two reviews concur and there are no major problems with the work, we end the review process. If there are conflicting reviews, however, we seek a third or fourth review (from a multinational press in South Africa).



External reviewers suggested by book authors are sometimes used, but only under specific circumstances:

We do this very seldom, but have on occasion done so if a book is highly specialised and there are very few specialists in that particular field. But then usually also employ a second reviewer (from a commercial press with university imprint).

If we are struggling to find reviewers in a very specialised field, we may use reviewers suggested to us, but this is not the norm (from a university press).

If the subject content is specialised and there are only a few recognised experts in the field, we will consider using an external reviewer suggested by the author(s) (from a university press).

International reviewers are sometimes used, but this seems to depend on the circumstances of a specific manuscript:

For most manuscripts, we try to get a local AND an international reviewer (from a university press).

We focus on securing the most appropriate reviewer, regardless of location (from a science council press).

We do this when selling rights or doing a co-edition with a publisher abroad; or if the specialist on the subject is well-known and based abroad (from a commercial press with university imprint).

Established publishers thus have structures in place to help them to find suitably qualified external reviewers, often involving a systemic **editorial board or publications committee**, but only occasionally an *ad hoc* **panel of editors** for a particular collected work:

Our Publications Committee consists of experts from a range of fields, each with a wide network. We have also developed a database over the years, and add authors who have previously published with us to the list (from a university press).

We work with an independent Editorial Board, with past readers and with existing authors. We keep track of who is working on what, within disciplines (from a science council press).



Sometimes a mechanism is suggested by the co-publisher abroad, or we get hold of a renowned international specialist (from a commercial press with university imprint).

We depend on word-of-mouth and on contacts in the academic field (from a multinational press in South Africa)

Our press has been operating for many years. Being part of the university structure means that we have access to a range of suitably qualified academic reviewers. A number of valuable contacts have been established over the years as well. From the reviewers that we know and use, additional names are passed on to us who we can consider using (from a university press).

In the special case of **directly edited works**, the decision to employ external reviewers is determined by various factors:

If proof can be provided that the chapters have been previously reviewed, then we will not always send the edited volume out for further review (from a university press).

We use external reviewers/editors if the authors are unknown to us, and have not published with us before, and/or if we are concerned about the quality of certain chapters and the coherence of the whole, etc, and/or if we want to sell rights internationally but the title is to be published under the university imprint (from a commercial press with university imprint).

Publishers seem to be sensitive to the possibility that an edited work can be a mere **compilation and re-publication of existing work**, and guard against this practice:

We don't recycle academic work. A contribution to scholarship must be apparent to merit publication (from a science council press).

The compilation must be relevant/original in this form. It must have a binding and authoritative introduction to hold the collection together (from a university press).

Some comments made by publishers on the editorial process reiterate the value accorded to peer review but also acknowledge that other considerations may be taken into account when considering publishing a book manuscript:



The peer-review process is relatively stringent in terms of scholarly merit, but it is not good at assessing potential markets. We add an extra screening internally to look at marketability when considering scholarly books (from a university press).

We have a formal, independent Editorial Board, comprising scholars of standing in the academic community. They have oversight of the review process, and deliberate on the merits of each publication and on our publishing policy. This is kept entirely separate from the financial and operational issues. Only once a recommendation to publish is reached by the Board will the Press be in a position to accept a publication; the right to refuse to publish is afforded to the Press, however (from a science council press).

Reviewers know that that their reviews are confidential and that we expect frank comment ... unless of course they agree to their identity being revealed. If the review is 'favourable' and the reviewer agrees, we sometimes use snippets from their review to market the book (from a commercial press with university imprint).

The responses by South African publishers suggest that a variety of peer review-based practices are followed when manuscripts for monographs and edited volumes/collected works are submitted for possible publication. Understandably, considerations besides scholarly quality (costs, marketability) are also taken into consideration, and it seems to be rare that these operational issues interfere with the separate, prior application of the quality criterion (i.e. that authors are required to 'lower their scholarly quality' in order to achieve publication).

The main issue is whether **peer review of individual chapters** in the case of edited volumes/collected works is in fact comparable in rigour to that used by journals. The use by book publishers of **generic editorial boards** (i.e. boards overseeing a large variety of disciplinary fields) to exercise the kinds of editorial discretion used by discipline-focused journal editors and editorial boards generically represents a dilution of scholarly authority in quality assurance. The deployment of **panels of authoritative editors** (often doubling as peer reviewers) for specific volumes strengthens the mechanism, and generally addresses the important issues of scholarly synthesis discussed in Chapter 1 of this Report, but it does not necessarily generate equivalence to **independent peer review of individual chapters**, and it conflates the necessarily separate functions of editing and peer review.



As it is extremely desirable that edited/collected works should be part of the scholarly literature, the conclusion appears to be inescapable that a general **optimisation of quality assurance practice** should be promoted in the publication of scholarly books, especially in the case of edited/collected works. **This could realistically be achieved by separating the functions of publishers from those of book-specific 'Editorial Panels' set up for each collection of manuscripts, to oversee the achievement of the kinds of scholarly objectives described in Chapter 1 of this Report. In addition, when the members of editorial panels do not have the expertise to perform independent peer review of each intended chapter, genuine peers should be invited to do so, using criteria similar to those of scholarly journals, including the special features of originality and 'uniqueness' (i.e. no re-publication of already published work).**

Many journals publish **authoritative reviews** of certain topics within their focus areas, as value-adding features that sometimes attain the special quality of 'new syntheses' of existing conceptual frameworks. Such reviews are also very commonly commissioned in the design of new edited/collected works. The kind of peer review applied in journals to such manuscripts is a variant of the standard quality-emphasising model, but which at minimum applies the criterion of originality more in the sense of 'uniqueness' than of true first-in-field publication. This approach is obviously also suitable for book chapters, and thus adds to the case for integrating them into 'literature' through the use of best-practice modes of peer review and editorial discretion.

Books are published in, and from South Africa: Analysis of database on monographs and chapters in collected works developed by CREST

Monographs

Based on data provided by individual universities and the DoHET, the CREST database includes a total of 389 monographs which were produced between 2001 and 2006, authored by 689 authors and involving 195 publishers. The following salient points have emerged from these analyses:

- The annual number of monographs submitted to DoHET for subsidy has declined since 2001, but now seems to have settled at an average of around 60 titles per year (Figure 3.1).
- As expected, the vast majority of monographs were in the humanities (45%) and social sciences (37%). The annual output per field has not changed significantly, although very few titles in engineering and health sciences were recorded over the past two years (Figure 3.2).

- Slightly more than half of these monographs (54%) were published by overseas publishing houses. This ratio has remained very stable (with the exception of 2005) over the past six years.
- The majority of titles in engineering and natural sciences were published by overseas publishers.
- Half of the monographs published by South African publishers were published by commercial publishers, one quarter by university presses and the remainder by university research centres, science councils and other publishers. (Figure 3.3).

Figure 3.1: Number of monographs in dataset by year (N = 389)

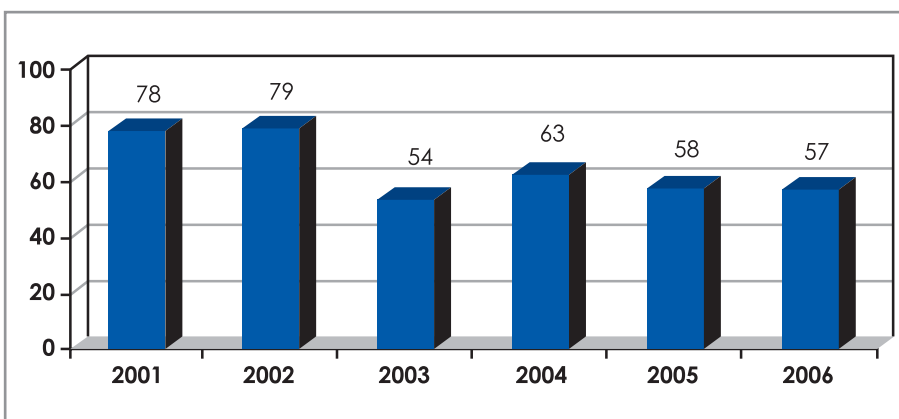
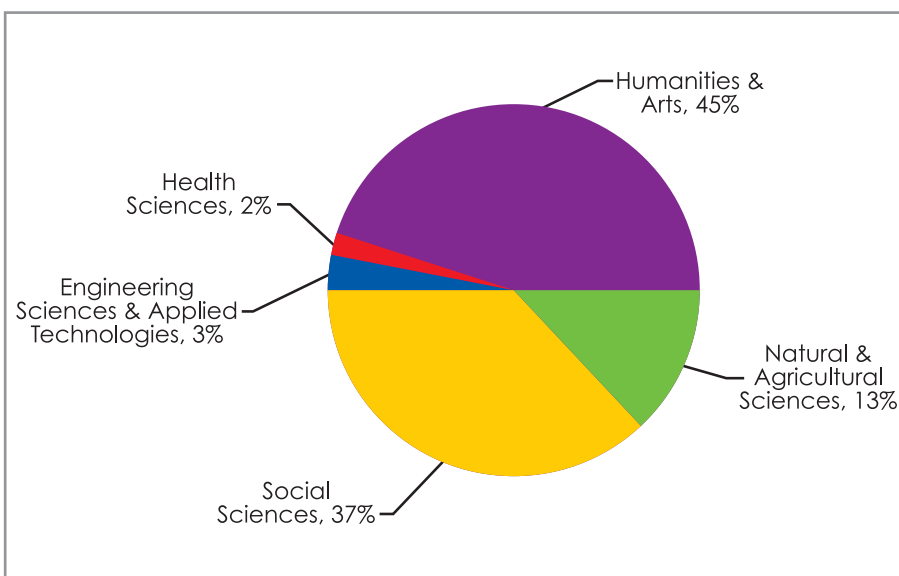
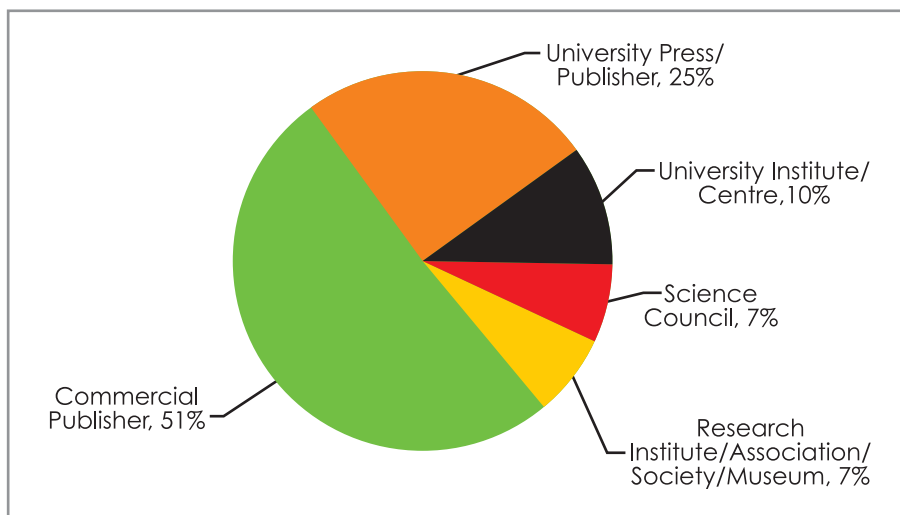


Figure 3.2: Broad field distribution of monographs (N = 389)



Figures 3.3: Nature of publishers



The annual number of monographs annually submitted for subsidy to the DoHET has declined since 2001, but now seems to have settled at an average of about 60 titles per year. The vast majority of monographs are in the humanities (45%) and social sciences (37%). Slightly more than half of these monographs (54%) were published by overseas publishing houses. This ratio has remained very stable (with the exception of 2005) over the past six years. The majority of titles in engineering and natural sciences were published by overseas publishers. Half of the monographs published by South African publishers were published by commercial publishers, one quarter by University Presses and the remainder by university research centres, science councils and other publishers.

Chapters in collected works

According to the database compiled for this study, a total of 1 333 collected work titles (published by 535 publishers) were submitted for subsidy purposes between 2001 and 2006. A total of 2 780 chapters appeared in these collected works and were authored by 2 599 authors. The following salient points have emerged from these analyses:

- The annual number of chapters in collected works steadily increased between 2001 and 2006, with the exception of 2005 when a decrease was recorded. The decrease for 2005 is also evident for the number of collected works in which these chapters appear, although here the decrease already started in 2004. On average, between 2001 and 2006, there were about 220 collected works and 460 chapters per year (Figure 3.4).

- The vast majority of collected works were published in the fields of social sciences (47%) and humanities and arts (31%) (Figure 3.5).
- The majority of collected works (78%) were published by overseas publishers, and the figure has remained more or less stable (73%-81%) over the past six years (Figure 3.6). Overseas publishing houses dominate the production of collected works in all five fields.
- Commercial publishers produced close to half of the collected works.

Figure 3.4: Number of collected works (N = 1 333) and number of chapters in collected works (N = 2 780) by year

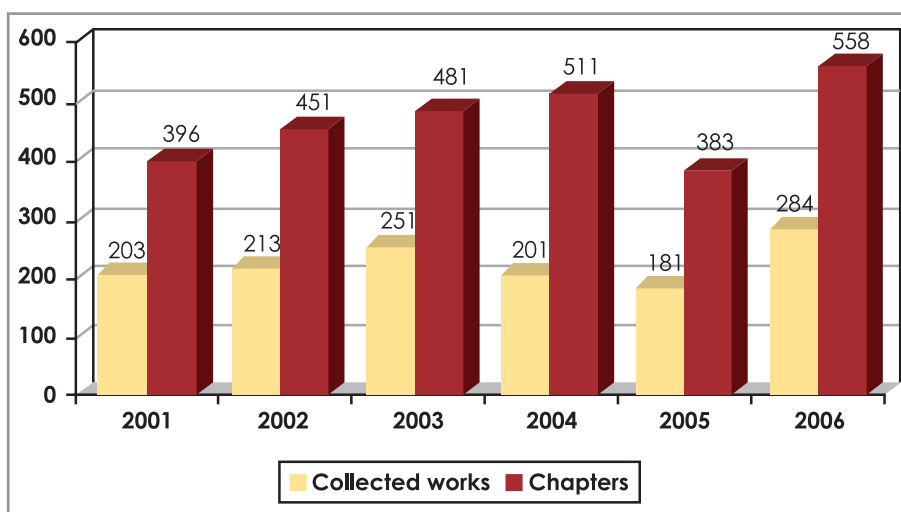


Figure 3.5: Broad field distribution of collected works (N = 1 333)

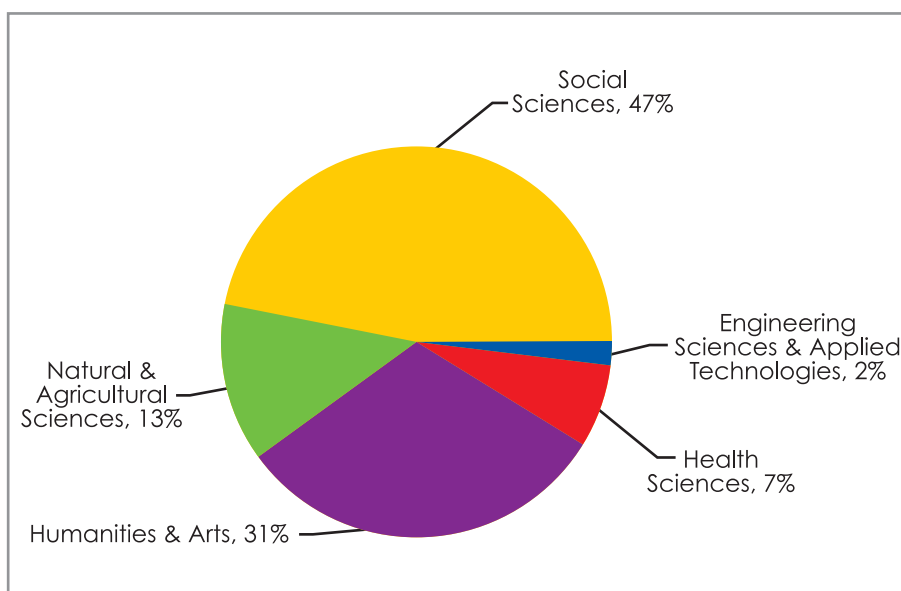
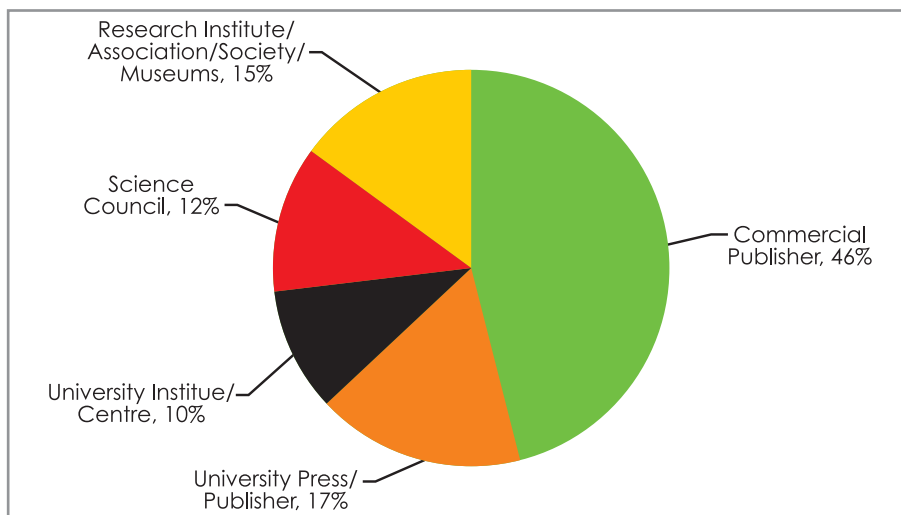


Figure 3.6: Collected works in terms of classification of South African publishers (N = 294)



The annual number of chapters in collected works steadily increased between 2001 and 2006, with the exception of 2005 when a decrease was recorded. On average, between 2001 and 2006 there were about 220 collected works and 460 chapters per year. The vast majority of collected works were published in the fields of social sciences (47%) and humanities and arts (31%). The majority of collected works (78%) were published by overseas publishers, and the figure has remained more or less stable (73%-81%) over the past six years. Overseas publishing houses dominate the production of collected works in all five fields. Commercial publishers produced close to half of the collected works.

Interrelationship between authors producing monographs, chapters in collected works and journal articles

The purpose of the analyses reported here was to determine to what extent **productivity** in monograph and chapter publication corresponded, not only to each other, but also to another form of scientific publication where the peer-review mechanism was well-established and the products generally indicative of scientific rigour.

The relationship between monographs, chapters in collected works and journal articles was approached analytically from three sides:

- First, from the side of monograph authors: the number of monographs produced by the most productive monograph authors, correlated with the number of chapters in collected works and articles produced by these monograph authors.

- Second, from the side of authors of chapters in collected works: the number of chapters produced by the most productive chapter authors, correlated with the number of monographs and articles produced by these chapter authors.
- Third, from the side of article authors: the number of articles produced by the most productive article authors, correlated with the number of monographs and chapters in collected works produced by these article authors.

In all instances, the relationship was first investigated by means of a cross-tabulation, followed by a non-parametric Spearman rank-order analysis (Spearman's rho). Statistical significance in the case of the cross-tabulations was determined by means of a Chi-square test. In most cases, however, the resulting Chi-square statistics were invalid because of low expected cell frequencies resulting from the small group sizes. Thus, emphasis rather fell on the value of Cramer's V, which is a measure of the strength of the association between the two variables measured. (A relatively strong relationship is normally indicated by a Cramer's value of 0.3 or higher; in the case of the Spearman's rank-order analysis, a statistically significant relationship is evident where the associated probability is less than 0.05 (i.e. where $p < 0.05$)). Spearman's rho was computed per field.

The most productive monograph authors and their production of articles and chapters in collected works

'Most productive monograph authors' were defined as those who authored at least two monographs between 2001 and 2006. The monograph database contained 74 productive authors in total – 36 in the field of humanities and arts, 25 in the social sciences, four in both the social sciences and humanities and arts, and nine in the natural and agricultural sciences. None of the most productive authors produced monographs in health sciences or in engineering sciences and applied technologies. Moreover, 23 of the 74 most productive monograph authors published chapters in collected works between 2001 and 2006, and 49 of the 74 most productive monograph authors also published journal articles between 2001 and 2004 (see Appendix A).

Almost 70% of the most productive monograph authors did not produce any chapters in collected works between 2001 and 2006. Somewhat surprisingly, nearly 40% of those who had published two monographs in this period did not produce any articles. As one would expect, those who are productive in monograph production tended also to publish more articles – 44% of those who produced three or more monographs



also produced more than three articles over this period. The relationship between the number of monographs and articles produced by the most productive monograph authors was statistically significant, according to the results of the Spearman's rho.

Most productive authors of chapters in collected works and their production of monographs and articles

A 'most productive author of chapters in collected works' was defined as someone who produced at least three chapters in collected works between 2001 and 2006. The database included 371 productive chapter authors. Of these, only 23 also produced monographs over the same period and 258 published journal articles between 2001 and 2004 (see appendix A). The results of the interrelationships between chapter, monograph and article production for these 371 chapter authors appear in Tables 3.2 to 3.3.

About 94% of the authors productive in chapter publication did not produce any monographs over the same period. Chapter and article production by the most productive chapter authors showed almost no relationship. Only in the field of social sciences did productive chapter authors also tend to publish more articles. In humanities and arts the trend was for productive chapter authors also to publish more monographs.

Most productive article authors and their production of monographs and chapters in collected works

The 20 most productive article authors for the period 2001-2004 were identified based on the article output of South African authors in SAK. This was done by broad field as well as across fields. Of the 20 most productive article authors overall, six also published monographs and five also published chapters between 2001 and 2006.

Productive article authors in natural and agricultural sciences also tended to publish monographs whereas productive article authors in social sciences tended not to publish chapters in collected works.

Thus no clear pattern emerged from the analysis of the interrelationships between monograph, chapter and article publication. Productivity in article production did not necessarily correspond to productivity in scholarly book production (monographs and chapters in collected works). The practical conclusion is that the monographs and chapters

produced by the most productive article authors could not be regarded as 'more scientific' simply because the majority of productive article authors (94%) did not produce monographs. Only in the field of humanities and arts did the most productive article authors also produce more chapters in collected works.

On the relative importance to researchers of monographs and journals – evidence from the CREST survey

In the survey of the most active scientists and scholars in South Africa conducted by CREST in November 2007, a number of questions were included that related to **scientific importance, recognition and effort invested in production**. Table 3.2 contains responses to four statements which relate to a comparison of books/monographs and journal articles in these terms. Only persons who had authored at least one scientific book or monograph were requested to respond to the statements. Cross-tabulations of the statements with broad scientific field all resulted in strong associations, as can be seen in Table 3.2.

Respondents in the arts and humanities and social sciences were significantly more likely to agree that books/monographs 'overshadowed' their best of journal articles in terms of importance, and that they also led to greater recognition. They also took a significantly longer period to produce – over 5 times the effort of producing a standard article was required in the production of these. This said, it must be noted that even within these two broad field categories, substantial percentages of respondents also indicated the opposite (e.g. 22% of respondents in social sciences disagreed that their books/monographs were more important than the best of their journal articles). Moreover, in the case of the other three field categories there was a large variability in responses.



Table 3.2: Respondents' comparison of books/monographs and articles in terms of scientific importance, recognition and effort taken to produce

Statements	Arts & humanities	Social sciences	Natural & agricultural sciences	Medical & health sciences	Engineering sciences
I would rate the book(s)/monograph(s) that I have authored as being more important than the best of the articles I have produced [Chi square = 50.338, $p < 0.05$; Cramer's $V = 0.373$]					
Strongly agree/ agree	72.2%	60.0%	29.5%	7.1%	30.0%
Neither agree nor disagree	11.1%	17.8%	36.4%	25.0%	50.0%
Strongly disagree/ disagree	16.7%	22.2%	34.1%	67.9%	20.0%
Total responses	54	45	44	28	10
I would rate the book(s)/monograph(s) that I have authored as being less important than the best of the articles I have produced [Chi square = 50.338, $p < 0.05$; Cramer's $V = 0.373$]					
Strongly agree/ agree	3.8%	15.6%	26.7%	53.6%	10.0%
Neither agree nor disagree	18.9%	17.8%	40.0%	25.0%	50.0%
Strongly disagree/ disagree	77.4%	66.7%	33.3%	21.4%	40.0%
Total responses	53	45	45	28	10

Statements	Arts & humanities	Social sciences	Natural & agricultural sciences	Medical & health sciences	Engineering sciences
I have (in general) received more recognition for the book(s)/monograph(s) that I have authored than for the articles I have produced [Chi square = 38.629, $p < 0.05$; Cramer's $V = 0.328$]					
Strongly agree/ agree	63.0%	55.8%	26.7%	10.7%	30.0%
Neither agree nor disagree	20.4%	14.0%	31.1%	21.4%	50.0%
Strongly disagree/ disagree	16.7%	30.2%	42.2%	67.9%	20.0%
Total responses	54	43	45	28	10
The effort that has gone into the production of my book(s)/mono-graph(s) is definitely more than five times the effort of producing a standard article [Chi square invalid because 40% of expected counts less than 5; Cramer's $V = 0.321$]					
Strongly agree/ agree	88.9%	86.7%	77.8%	39.3%	60.0%
Neither agree nor disagree	7.4%	6.7%	11.1%	14.3%	20.0%
Strongly disagree/ disagree	3.7%	6.7%	11.1%	46.4%	20.0%
Total responses	54	45	45	28	10



The CREST survey of top scholars in the country thus reaffirmed the field-specific differences in personal assessment of the relative value of monographs and journal articles. The majority of respondents in the social sciences and humanities indicated that they regarded their best monograph as better than their best individual articles. Respondents from the natural sciences were divided on this issue, with respondents from the health sciences and engineering indicating that they valued their best article as being more important than their best monograph.

The majority of respondents (ranging from 60% to 89%) in all fields of science except the health sciences were of the opinion that the effort that had gone into the production of their book(s)/monograph(s) was definitely more than five times the effort of producing a standard article.

Books and journals as modes of knowledge dissemination

The discussion in this section draws on diverse sources of evidence, including **surveys** conducted by CREST in 2002 for NACI and separately as part of this study, as well as a review of appropriate studies reported in the scholarly literature. The following guiding questions inform the discussion below:

- How do (preferred) modes of dissemination (such as the use of monographs and journal articles) differ across scientific fields?
- How do scientists and scholars across different disciplines comparatively value monographs and articles in terms of aspects such as the following:
 - The importance of monographs for the dissemination of knowledge;
 - International and local publication in scholarly journals, compared with the production of monographs;
 - The value of different modes of knowledge dissemination for personal advancement and career development;
- Are the intended audiences of monographs and articles very different?

Evidence from surveys conducted by CREST:

CREST survey on knowledge utilisation undertaken for NACI (2002)

The first results emanated from a survey conducted in 2002 on the utilisation of public research findings. In Table 3.3, the percentage of project leaders who used the particular mode of scholarly publication for each broad scientific field is calculated.



Table 3.3: Modes of scholarly publication used in communication of research results, by broad scientific field

Mode of scholarly publication	All fields (N=1 803)	Arts & humanities (N=345)	Social sciences (N=611)	Natural & agricultural sciences (N=898)	Medical & health sciences (N=346)	Engineering sciences & applied technologies (N=483)
Articles in refereed scientific journals	54.5%	57.7%	50.7%	55.9%	65.0%	44.9%
Published conference proceedings	46.8%	32.8%	42.7%	53.6%	48.8%	55.3%
Chapters in books	15.2%	22.3%	15.9%	14.6%	15.3%	12.2%
Books/monographs	11.3%	21.4%	13.9%	7.8%	6.6%	7.2%
Articles in refereed technical journals	7.2%	3.5%	4.4%	8.7%	6.4%	15.3%

This survey of research utilisation amongst South African scientists confirmed that the use of books/monographs and book chapters was highest in the case of arts and humanities (22% and 21%). In all fields, however, the preference was for articles in peer-reviewed scientific journals and published conference proceedings as primary modes of dissemination.

Different target audiences for monographs and journal articles

Evidence from CREST surveys conducted by CREST: survey on knowledge utilisation undertaken for NACI (2002)

The 2002 Knowledge Utilisation Survey did not include a specific item regarding the **target audiences of books/monographs**. Some indication of 'audience' can be gauged, however, from an item where the project leaders had to indicate the intended beneficiaries of their project results, which are listed in Table 3.4. The figures apply to a subset of



projects where the mode of scholarly publication included books/monographs. Thus, in Table 3.4 the assumption was made that the project audiences and the book audiences overlapped, because, in all instances, book publishing served as a communication mode for the project results. To the extent that this assumption was valid, one could conclude that, in all broad fields, scholars working within the same discipline as the project leader (or book author), were the preferred intended beneficiaries. This said, scholars in own disciplines as intended beneficiaries are least mentioned by project leaders in engineering and applied technologies (57%), and most by project leaders in arts and humanities (85%) and social sciences (77%). The same analysis was repeated for respondents who respectively specified chapters in books and articles in refereed scientific output as communication modes (Tables 3.5 and 3.6).

Table 3.4: Intended beneficiaries of research results as indicated by project leaders who specified 'books' as communication mode, by broad scientific field

Intended beneficiaries	Arts & humanities (N=74)	Social sciences (N=85)	Natural & agricultural sciences (N=70)	Medical & health sciences (N=23)	Engineering sciences & applied technologies (N=35)
Colleagues/scholars/peers in own discipline	85.1%	76.5%	68.6%	69.6%	57.1%
Colleagues/scholars/peers in other disciplines	47.3%	45.9%	24.3%	47.8%	31.4%
The contracting agency	8.1%	20.0%	12.9%	13.0%	22.9%
Industry/firms	10.8%	14.1%	44.3%	21.7%	48.6%
Government	23.0%	44.7%	42.9%	43.5%	31.4%
Specific interest groups (e.g. farmers, consumers)	21.6%	24.7%	47.1%	30.4%	31.4%
General public/society/community	45.9%	45.9%	45.7%	52.2%	40.0%



Table 3.5: Intended beneficiaries of research results as indicated by project leaders who specified 'chapters in books' as communication mode, by broad scientific field

Intended beneficiaries	Arts & humanities (N=77)	Social sciences (N=97)	Natural & agricultural sciences (N=131)	Medical & health sciences (N=53)	Engineering sciences & applied technologies (N=59)
Colleagues/scholars/peers in own discipline	83.1%	70.1%	63.4%	66.0%	61.0%
Colleagues/scholars/peers in other disciplines	55.8%	44.3%	34.4%	47.2%	35.6%
The contracting agency	7.8%	15.5%	16.8%	9.4%	15.3%
Industry/firms	11.7%	14.4%	32.1%	20.8%	37.3%
Government	32.5%	51.5%	34.4%	35.8%	32.2%
Specific interest groups (e.g. farmers, consumers)	29.9%	29.9%	43.5%	35.8%	35.6%
General public/society/community	46.8%	49.5%	35.9%	52.8%	33.9%

Table 3.6: Intended beneficiaries of research results as indicated by project leaders who specified 'articles in refereed scientific journals' as communication mode, by broad scientific field

Intended beneficiaries	Arts & humanities (N=199)	Social sciences (N=310)	Natural & agricultural sciences (N=225)	Medical & health sciences (N=225)	Engineering sciences & applied technologies (N=217)
Colleagues/scholars/peers in own discipline	84.9%	70.0%	64.1%	64.4%	53.5%
Colleagues/scholars/peers in other disciplines	46.7%	39.0%	28.7%	36.0%	22.6%



Table 3.6: Intended beneficiaries of research results as indicated by project leaders who specified 'articles in refereed scientific journals' as communication mode, by broad scientific field

Intended beneficiaries	Arts & humanities (N=199)	Social sciences (N=310)	Natural & agricultural sciences (N=225)	Medical & health sciences (N=225)	Engineering sciences & applied technologies (N=217)
The contracting agency	8.0%	16.8%	16.7%	10.2%	19.4%
Industry/firms	8.5%	19.7%	36.9%	19.1%	50.2%
Government	32.2%	40.3%	23.1%	30.2%	22.1%
Specific interest groups (e.g. farmers, consumers)	30.2%	31.0%	36.5%	27.1%	36.4%
General public/ society/ community	45.7%	42.3%	29.1%	46.7%	29.0%

The survey of knowledge utilisation in 2002 revealed that irrespective of whether books, chapters in books or refereed articles were stated as main communication modes, the proportions of project leaders who identified scholars in their own discipline as intended beneficiaries remained more or less the same, and ranged from 54% to 85%.

Evidence from the literature

In a major study of scholarly journal publishing between 1981 and 2000, focused on the field of history, Albert Greco and colleagues found the following²²:

- Scholarly journals were seen as a positive contributor to knowledge dissemination.
- Peer review was the main consideration for academics – not whether a university press or commercial publisher had published an article or book.
- The 'serials crisis' (costs) had not affected historians, because history journals had low subscription rates.
- Journal article were an important determinant of scholarship at lower ranked colleges and universities.
- Books remain the preferred scholarly format for research output.



Nederhof argued that the natural sciences cater for an international community of scientists, whereas social scientists in some fields focus their interest and output at national and regional phenomena.²³ The assumption appeared to be made that social science and humanities research outputs obtained in one country might not be useful or applicable to researchers in other countries. This did not imply that all social sciences and humanities research was nationally or regionally bound, but rather that such an orientation was more prevalent in the social sciences and humanities than in other sciences. Social science scientists and humanities scientists also cater for a wide audience which includes the general public, policy-makers and the non-scholarly public. Nederhof claimed that social and humanities scientists tended to publish more of their work in edited books and monographs than did practitioners of other sciences, and tended to derive an important share of their citation impact from non-ISI source journals. Book authors also tend to employ qualitative as opposed to quantitative data more often than did authors writing articles in two major journals. Book authors were also typically five years more senior than article authors.

Social sciences and humanities generally have a slower **pace of theoretical development** than do the natural sciences.²³ This was evident in the higher citation rates of older literature and lower numbers of total citations. The '**price index**' was used to calculate the percentage of all references in journals to items published in the last five years: for physics and biochemistry, the price index was between 60 and 70%, compared with a 40%-50% rate in the social science journals. The distributions of citations also varied – over a 14-year period, articles in psychology journals took more than eight years to attain 50% of their citations compared with 4.5-6.5 years in the case of physics articles. Conversely, only 14%-22% of psychology articles were not being cited after 14 years, whereas 46%-75% of physics articles were no longer on the 'radar' after 14 years. Interestingly, authors of natural science textbooks tended to cite very few recent sources (6% in chemistry and 3% in physics), compared with 75% in sociology textbooks. Thus, materials covered by current physics and chemistry textbooks remained essentially the same over a 20-year period, whereas sociology textbooks cited a very small portion of the work included 20 years ago.

In the social sciences and humanities, scholars generally tend to produce single-authored publications as compared with the multi-authorship approach followed by basic scientists; it is to be expected that a team of researchers can produce more scholarly output than can single authors.



A study on the extent to which social science and humanities fields were covered by ISI indexes showed great variations in the social sciences field: 2% coverage in public administration, compared with 62% coverage in experimental psychology.²³ The humanities had less variation in ISI coverage (10-39% but ISI covered 83% of English literature compared to 11% coverage for Scandinavian literature. Many crucial social science and humanities journals were covered by neither the Social Sciences Citation Index nor the Arts and Humanities Index, reinforcing the idea that basic scientists were more productive than their social science and humanities counterparts. The USA's dominance in the social sciences and some of the humanities fields was evident in both sets of figures. A severe shortcoming of these particular indexes was seen to be the non-coverage of non-serial publications, especially in the social sciences and humanities where books are an important communication medium.

The social sciences and humanities appear to cater for a wider audience than do the natural sciences. Monographs remain an important medium whereby scholars in the social sciences and humanities reach their audience. In most of the social sciences and the humanities, monograph authors do not seem to represent a distinct public, although they may prefer different methods, deal with a broader set of topics, use older material more often and may conform more often to a traditional humanities research style.

Recommendations arising from this Chapter

The Panel recommends that attempts should be made to obtain the agreement of book publishers in South Africa to follow a general quality assurance system captured as guidelines based on the recommendations contained in this Report. This should be based on the typology of scholarly books proposed in Chapter 5 of this Report, and involve a clear separation of overall publishing considerations in the marketplace from the complex collecting/editing functions of editorial panels/boards, but with additional independent and individual review of free-standing book chapters by appropriate peers in cases where the members of editorial panels are unable to provide this important function. This could be linked to a form of service-level agreement to which publishers would be required to adhere should they wish to benefit from the above-proposed subsidy system, or from the present research outputs accreditation model.

(The biggest quality assurance problem encountered in the committee-based accreditation process used by the DoHET's higher education branch has been the issue of whether the 'peer review' required under

policy has been exercised by one or more editorial panel or commissioning editors, whether this has been exercised in respect of individual chapters and/or the whole collected work, and whether the person(s) concerned are true, disinterested peers in either context. Our recommendation is aimed at providing a stimulus for best practice that arises from greater clarity as to the nature and objectives of scholarly books, as described in this Report. The measures available to enhance the effectiveness and efficiency of peer review described in this Chapter 3 should also be adopted in a general agenda or producing approximate equivalence between the quality assurance systems of journals and those used for books. The most important of these are blind review (at least with respect to author/institution identity in the case of the reviewers), multiplicity of reviewers and their independent operation, an emphasis on improvement of submissions before publication, and greater cumulative acknowledgment of the voluntary contributions of good reviewers.)

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CHAPTER 4

Who evaluates scholarly books, and how well and legitimately do they do so?

Scholarly books present a problem for evaluation by authorities at research institutions and granting bodies all over the world. Books lack the paradigms typical of the world of scholarly journals, where there is broad systemic compliance with the well-understood, if unwritten rules governing additions to the literature, while a variety of systems of inclusion and exclusion, best illustrated by the ISI-Web of Science system of Thomson Reuters, provide a working value system (however much contested – see elsewhere in this Report). Thus the evaluation of books as research outputs in the subsidy system promulgated by the South African Department of Higher Education and Training (DoHET) has presented an array of operational problems culminating in the commissioning of this Report. Some of the key issues are: What distinguishes scholarly books from other books? What is their special contribution to scholarship, knowledge dissemination and the growth of new scholars? How can policy formulation foster their quality and impact?

There is an urgent need for answers to these questions. The preceding Chapters have provided a basis for clarifying the nature, importance and meaning for academic discourse of scholarly books. This must now be woven into recommendations for best practice and optimal policy.

Scholarly books and the accreditation system of the Department of Higher Education and Training (DoHET)

The most prominent (and controversial) example of evaluation of books linked to policy in South Africa is the 'accreditation' of books published by authors working at higher education institutions in the annual research outputs assessment conducted by the DoHET.¹ This complex process illustrates most of the outstanding issues concerning the position of scholarly books in the country's system of innovation.

Background on the criteria and processes of the DoHET assessment system

The DoHET released a revised funding framework aimed at further incentivising research output in the country in December 2003, taking



effect from January 2005. The sections in the framework which pertain to 'Books' and 'Chapters in Edited Volumes' are discussed briefly in this section.

Core definitions

- **Books** refer to peer-reviewed, non-periodical scholarly or research publications disseminating original research on developments within specific disciplines, sub-disciplines or fields of study. Only books that meet specified criteria are subsidised. Examples of different types of books include:
 - **Monographs**, which are relatively short books or treatises on a single scholarly subject written by a specialist(s) in the field and are generally not extensive in scope (*sic*).
 - **Chapters**, which are one or more major divisions in a book, each complete in itself but related in theme to the division preceding or following it.
 - **Edited works**, are collections of scholarly contributions written by different authors and related in theme. A book may have one or more editors.

Processes and criteria

The DoHET establishes for each reporting year, an **evaluation panel of senior professionals** from the higher education community to evaluate all books and proceedings submitted by claiming institutions. In the event that either the book or proceedings is published in a language other than English, the institution must submit a summary of the output in English with a minimum of one page for books and an abstract for proceedings. Similarly, any supporting evidence or documentation must also be provided in English.

The minimum contribution from a book that will be considered for evaluation will be a complete division of a book such as a chapter. The independent panel evaluates books and proceedings together with the relevant accompanying information individually prior to recommending the allocation of units for each book or proceeding based on the following minimum criteria:

- The purpose of the book must be to disseminate original research and new developments within specific disciplines, sub-disciplines or field of study.



- The book must be peer reviewed as a research output and supporting evidence provided in the book or from the publishers.
- The book must have an ISBN number.
- The length of the book must be a minimum of 60 pages, excluding references, bibliography, appendices, this being above the minimum norm of 49 pages proposed by the UNESCO definition of a book as a non-periodical literary publication consisting of 49 or more pages, covers excluded.
- The target audience of the book must be specialists in the relevant field.

The following types of book publications are not subsidised:

- Dissertations and theses
- Text books and study guides
- Inaugural speeches
- Reports forming part of contract research
- Works of fiction

Allocation of units

Higher education institutions accrue units based on productivity within subsidised research output for the reporting year. However, the allocation of units is determined by the type of research output and the institutional affiliation of the authors.

- **Journals:** A research article published in an approved journal will be subsidised as a single unit (1 unit), if all the authors are affiliated to the claiming institution. In the case where authors are affiliated with two or more institutions, the subsidy is shared between the claiming institutions.
- **Books:** A book may be subsidised to a maximum of five units or portion thereof, based on the number of pages being claimed relative to the total number of pages of the book, if all the authors are affiliated to the claiming institution. *A guideline of a minimum of 60 pages and maximum of 300 pages will be allocated per unit or proportions and multiples thereof, if all the authors are affiliated to the claiming institution (sic).* However, where authors are affiliated with two or more South African public institutions, the subsidy is shared between the claiming institutions.
- **Proceedings:** Proceedings published as part of a peer-reviewed non-periodical research output from conferences, congresses, symposia or other meetings where the primary purpose of disseminating research results will be allocated a maximum of one half a unit (0.5) if



all the authors are affiliated to the claiming institution. In the case where authors are affiliated with two or more institutions, the subsidy is shared between the claiming institutions.

Recent subsidies awarded for book outputs under policy

Table 4.1 presents the most recent statistics (provided by the DoHET) on the **different output categories** and actual **numbers of publication units** awarded in each category over a number of years. Figure 4.1 shows that there has been a significant increase in subsidy units earned for books and book chapters (from 201 in 2004 to 331 in 2006); this is the highest percentage increase for any of the three categories listed. Overall subsidies awarded for books and book chapters still constitute only 4% of total subsidies awarded, however. The bulk of subsidies (92%) in 2006 were awarded for journal articles.

The past three years has seen an overall growth of 30% in book and book chapter production. Six universities (UCT, UKZN, UWC, UP, WITS and Rhodes) were awarded 86% (284.74 units) of all book units. If one were to add the book units earned by the next three productive universities UJ, SU and UNISA this percentage increases to 95%. This is an important statistic to keep in mind as it is a consideration that might impact on any recommendation made with regard to future changes to the system.

Table 4.1: Total Publications Units Allocated from 2004-2006
(Source, DoHET)

	2004			
Universities	Books	Proceedings	Journals	Tot. Output '04
UP	16.11	49.1	996.77	1061.98
UKZN	24.41	49.68	642.26	716.35
US	28.32	39.41	782.26	849.99
UCT	43.58	40.31	672.8	756.69
WITS	40.31	24.71	726.6	791.62
UFS	10.00	4.95	344.7	359.65
NW	0.15	3.3	271.6	275.05
RU	2.55	4.75	201.9	209.20
UWC	2.15	0.00	150.07	152.22
UL	0.92	0.00	113.6	114.52
UFH	0.00	0.00	44.61	44.61
UZ	0.00	0.00	57.33	57.33
UV	0.00	0.00	18.62	18.62
Total	168.5	216.21	5023.12	5407.83
Percentage				81.20%
UNISA	19.2	23.73	470.5	513.43
UJ	5.32	15.6	366.15	387.07
NMMU	7.3	12.9	132.8	153.00
WSU	0.5	0.5	16.6	17.60
Total	32.32	52.73	986.05	1071.10
Percentage				16.08%
TUT	0.00	18.12	61.4	79.52
CPUT	0.00	10.06	30.82	40.88
CUT	0.00	2	26.99	28.99
DUT	0.00	2.58	20.1	22.68
VUT	0.5	0.75	3.49	4.74
MAN TECH	0.00	0.00	4.5	4.50
Total	0.5	33.51	147.3	181.31
Percentage				2.72%
Grand Total	201.32	302.45	6156.47	6660.24



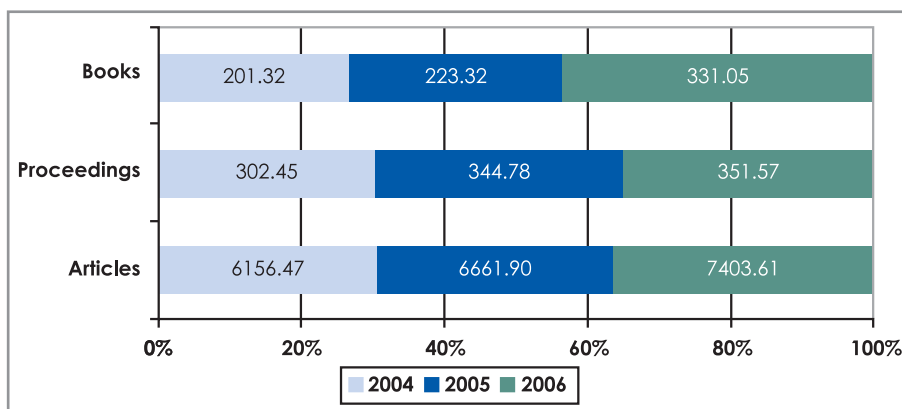
	2005			
Universities	Books	Proceedings	Journals	Tot. Output '04
UP	23.90	69.34	1007.54	1100.78
UKZN	51.87	37.47	859.30	948.64
US	14.00	22.74	789.39	826.13
UCT	76.30	61.75	754.70	892.75
WITS	17.08	31.30	712.20	760.58
UFS	7.68	6.93	396.37	410.98
NW	0.23	7.58	318.38	326.19
RU	5.20	14.98	232.60	252.78
UWC	6.41	0.50	159.10	166.01
UL	0.00	0.00	105.97	105.97
UFH	0.18	1.50	51.24	52.92
UZ	0.00	0.00	44.27	44.27
UV	0.00	0.00	26.90	26.90
Total	202.85	254.09	5457.96	5914.90
Percentage				81.81%
UNISA	6.66	10.94	502.25	519.85
UJ	11.55	13.64	300.80	325.99
NMMU	2.26	23.30	183.72	209.28
WSU	0.00	0.00	33.32	33.32
Total	20.47	47.88	1020.09	1088.44
Percentage				15.05%
TUT	0.00	17.61	69.90	87.51
CPUT	0.00	16.77	51.90	68.67
CUT	0.00	1.60	25.23	26.83
DUT	0.00	3.25	20.18	23.43
VUT	0.00	2.00	15.14	17.14
MAN TECH	0.00	1.58	1.50	3.08
Total	0.0	42.81	183.85	226.66
Percentage				3.13%
Grand Total	223.32	344.78	6661.9	7230



	2006			
Universities	Books	Proceedings	Journals	Tot. Output '04
UP	47.74	52.14	1102.02	1201.90
UKZN	73.89	32.02	977.80	1083.71
US	9.93	28.09	959.39	997.41
UCT	44.87	69.34	792.90	907.11
WITS	46.47	38.40	758.40	843.27
UFS	1.95	11.32	453.20	466.47
NW	1.55	7.80	351.50	360.85
RU	27.90	15.70	248.52	292.12
UWC	43.87	0.25	178.30	222.42
UL	0.00	0.00	107.01	107.01
UFH	7.78	0.66	63.34	71.78
UZ	0.33	5.48	53.91	59.72
UV	0.14	1.00	18.69	19.83
Total	306.42	262.2	6064.98	6633.60
Percentage				82.04%
UNISA	10.36	10.68	564.70	585.74
UJ	9.80	15.99	360.77	386.56
NMMU	1.71	13.82	172.20	187.73
WSU	0.20	0.00	22.23	22.43
Total	22.07	40.49	1119.9	1182.46
Percentage				14.62%
TUT	1.51	22.90	82.00	106.41
CPUT	0.00	16.72	47.10	63.82
CUT	0.00	0.50	37.21	37.71
DUT	1.05	3.00	31.00	35.05
VUT	0.00	4.26	16.42	20.68
MAN TECH	0.00	1.50	5.00	6.50
Total	2.56	48.88	218.73	270.17
Percentage				3.34%
Grand Total	331.05	351.57	7403.61	8086.23



Figure 4.1: Output per category (2004-2006)



Operational difficulties and shortcomings

The books component of the research outputs system represents less than 5% of the units awarded, but generates most of the controversy and criticism directed at it. These have been so severe that the DoHET has been unwilling to release to institutions which of their individual submissions have been accredited and which have not, depriving the authors concerned of any real feedback on their work, and weakening the normative intention of the policy. The evaluation committee has annually enumerated its many problem areas in confidential reports, culminating in a request to the Academy of Science of South Africa to conduct a **consensus study of books and book chapters published in, and from South Africa**. The brief for this study as approved by the Academy Council captures all of the most important issues which have troubled the evaluation committee:

1. How closely do (scholarly) book chapters correspond to original, peer-reviewed, editorially selected journal articles as 'research outputs' as defined in the DoHET policy? (In other words, can book chapters be reliably considered as part of 'the literature'?)
2. How much 're-publication' or 'pre-publication' of substantive journal article content occurs in book chapters? (Do many book chapters infringe the principle of originality or uniqueness fundamental to good order in 'the literature'?)
3. How does peer review as typically carried out in the case of books differ from 'gold standard' peer-review methodology used by journal editors? (In other words, does peer review of books and/or book chapters have the same objectives, and does it use the same fundamental criteria, as peer reviewing of scholarly journals?)
4. How well do books achieve the defined purposes of research outputs in terms of impact analysis e.g. citation analysis; book reviews; sales and re-printings; any other measures?



5. How much should books and book chapters be 'weighted' in terms of the DoHET policy framework? (Journal article = 1.0) (The question here is basically one of weighting the significance of the different kinds of outputs in the hope of an apples-versus-apples comparison.)
6. How are the 'target audiences' of scholarly books to be identified, as DoHET policy is that the target of accredited book chapters should be peers and 'other knowledge producers'?
7. How many book chapters are really not 'original, fully described additions to existing knowledge' but rather authoritative analyses, syntheses, and/or consolidations, in effect or potentially assisting others to map out **new** routes to **new** knowledge? (This requires evaluation of the increasing use of authoritative reviews in journals, often as groups in symposium mode, and the issue of the 'size of the canvas' on which one or more scholars may wish cooperatively or synergistically to paint significant conceptual advances in an area of a discipline.)
8. Does online publishing of books (already) enhance dissemination and access, and is the (print) book publishing route a less effective form of knowledge dissemination relative to the journal route?
9. How do different disciplinary areas compare in their use of books as opposed to journals, as selected dissemination routes? (And why do they so differ, in terms of the nature and speed of advancement of knowledge?)
10. What are the time delays in book as opposed to journal publishing?
11. What are the trends for the future role(s) of books as vehicles for the dissemination of scholarly knowledge? (Noting that most academic libraries have quite dramatically decreased the ratio of 'monographs' to 'periodicals' they have purchased over the last two decades.)

There are a number of other policy frameworks in South Africa that have problems arising from an inadequate understanding of the scholarly role of books and collected works. Higher education institutions as intentionally multi-disciplinary organisations have **promotion and other rewarding systems** that depend on a commonly agreed framework of values and merit assessment for their legitimacy and workability. With journal articles as apples and books as pears, there are bound to be problems in achieving genuinely collegial situations; default leaves one with separate 'robber baronies' in the faculties. Research-active institutions have **university presses** that are sorely in need not only of sustainable operating models but also of re-connection to the core scholarship of the institutions concerned (see Chapter 1).



The **National Research Foundation (NRF)** is the central demand-side channel for channelling public funding to higher education institutions, with the **Medical Research Council (MRC)** as a more focused and significantly smaller agency. A multitude of other public- and private-sector funding sources exist as well. Each of these awards grants on a competitive basis, and uses peer-review mechanisms of varying kinds to adjudicate that competition. Confusion as to the importance of books, collected works, and other once-off publication outputs relative to journal articles is widespread, and a source of contestation and demoralisation. The most serious problems are associated with the voluntary **rating system**, based on track record and multiple peer evaluation, operated by the NRF across all disciplinary areas. This system was recently evaluated as part of the first five-year institutional review of the NRF², and in a focused manner by a joint committee of Higher Education South Africa (HESA) and the NRF itself.³ Without a common understanding of the nature and scholarly value of books of various kinds, apples-and-pears comparisons become problematic and readily generate distrust of the equitability and validity of a well-intentioned but highly resource-intensive approach.

A further policy framework affected by the uncertainties concerning scholarly books is that which seeks to measure the productivity and cost-effectiveness of financial and other inputs into the research and innovation system of the country, through the use *inter alia* of indicators. Publications are amongst the most widely used **Research and Development (R&D) indicators**, and the issues surrounding journal articles in this context were fully addressed in the 2006 ASSAf Report.⁴ The numbers of published books and contributions to collected works have proved to be problematic indicators with respect to both their categorisation and their quality.

Post-publication evaluation of books

The more private and personal aspects of book publishing, which have mostly local primary impacts on authors and their colleagues, students and other readers are generally not relevant to the more systemic questions posed by the different varieties of books in terms of their contributions to 'the literature', to conceptual and knowledge frameworks of disciplines, and to long-term impacts on society. Objectively measuring these post-publication impacts requires the application of a number of approaches and parameters, of which the most important are formal published reviews in the literature itself (mostly but not only in scholarly journals), and citation analysis.



Monograph reviews as a measure of book impact

Information was gathered on published reviews published between 2001 and 2007 of the monograph titles in the monograph database. Three fields were generated for the purposes of analysis: the year of publication of the review; whether or not the review appeared in an accredited or non-accredited South African journal; and whether or not the review appeared in an ISI journal. Additional fields in the review dataset were the names of the journals in which the reviews appeared, the names of the review authors and, in the case of reviews in an ISI journal, the institutional affiliations of the review authors. The results are presented as follows:

- Summary profile of review information by year of monograph (Table 4.2)
- Summary profile of reviews by broad scientific field (Table 4.3)
- Summary profile of reviews by location of monograph publisher (Table 4.4)
- Summary profile of review by classification of South African publisher (Table 4.5)
- Year when first review was published by scientific field of monograph (Table 4.6)

Table 4.2: Summary profile of reviews of monographs, by year of monograph publication

Monographs reviewed in ...					
Year when monograph was published	Total monographs	Mono-graphs not reviewed	SA journals only (excl. ISI)	ISI journals only	Both SA journals and ISI journals
2001	78	60 (76.9%)	7 (9.0%)	10 (12.8%)	1 (1.3%)
2002	79	58 (73.4%)	6 (7.6%)	12 (15.2%)	3 (3.8%)
2003	54	36 (66.7%)	1 (1.9%)	11 (20.4%)	6 (11.1%)
2004	63	41 (65.1%)	6 (9.5%)	13 (20.6%)	3 (4.8%)
2005	58	39 (67.2%)	3 (5.2%)	11 (19.0%)	5 (8.6%)
2006	57	47 (82.5%)	2 (3.5%)	7 (12.3%)	1 (1.8%)
Total	389	281 (72.2%)	25 (6.4%)	64 (16.5%)	19 (4.9%)



Table 4.3: Summary profile of published reviews of monographs, by broad field of monograph

Broad field of mono-graph	Total mono-graphs	Mono-graphs not reviewed	SA jour-nals only (excl. ISI)	ISI journals only	Both SA journals and ISI journals
Engineer-ing sci-ences & applied technolo-gies	12	12 (100%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Health sciences	7	5 (71.4%)	0 (0.0%)	2 (28.6%)	0 (0.0%)
Humani-ties & arts	176	122 (69.3%)	18 (10.2%)	26 (14.8%)	10 (5.7%)
Natural & agricul-tural sci-ences	49	43 (87.8%)	0 (0.0%)	6 (12.2%)	0 (0.0%)
Social sciences	145	99 (68.3%)	7 (4.8%)	30 (20.7%)	9 (6.2%)
Total	389	281 (72.2%)	25 (6.4%)	64 (16.5%)	19 (4.9%)

Table 4.4: Summary profile of published reviews of monographs, by lo-cation of monograph publisher

Monographs reviewed in ...					
Location of mono-graph publisher	Total mono-graphs	Mono-graphs not reviewed	SA jour-nals only (excl. ISI)	ISI journals only	Both SA journals and ISI journals
Foreign	210	153 (72.9%)	6 (2.9%)	41 (19.5%)	10 (4.8%)
South African	179	128 (71.5%)	19 (10.6%)	23 (12.8%)	9 (5.0%)
Total	389	281 (72.2%)	25 (6.4%)	64 (16.5%)	19 (4.9%)

Table 4.5: Summary profile of published reviews of monographs, by classification of South African monograph publisher

Classification of SA publisher of monograph	Total monographs	Mono-graphs not reviewed	SA journals only (excl. ISI)	ISI journals only	Both SA journals and ISI journals
Commercial Publisher	91	63 (69.2%)	15 (16.5%)	8 (8.8%)	5 (5.5%)
University Press/ Publisher	44	30 (68.2%)	2 (4.5%)	10 (22.7%)	2 (4.5%)
Science Council	13	10 (76.9%)	0 (0.0%)	3 (23.1%)	0 (0.0%)
Research Institute/ Association/ Society/ Museum	13	13 (100%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
University Institute/ Centre	18	12 (66.7%)	2 (11.1%)	2 (11.1%)	2 (11.1%)
Total	179	128 (71.5%)	19 (10.6%)	23 (12.8%)	9 (5.0%)

Table 4.6: Year when first review of a monograph was published, by broad field of monograph

Year when first review of monograph appeared	Broad Field of Monograph			
	Humanities & Arts	Social Sciences	Other Sciences	Total monographs
Same year as monograph	22 (40.7%)	16 (34.8%)	3 (37.5%)	41 (38.0%)
1 year later	23 (42.6%)	24 (52.2%)	4 (50.0%)	51 (47.2%)
2+ years later	9 (16.7%)	6 (13.0%)	1 (12.5%)	16 (14.8%)
Total monographs	54 (100%)	46 (100%)	8 (100%)	108 (100%)



The analysis of reviews of South African monographs revealed the following: 28% of monographs had been reviewed, with the majority being reviewed in ISI journals. Only monographs in the social sciences and humanities were reviewed in local South African journals – the remainder of reviews for the other fields of science all appeared in ISI journals. There was no difference in the percentage of monographs reviewed as far as the location of their publishers was concerned: equal numbers of titles published by foreign and local publishers were reviewed. On average, most of the book reviews appeared within one year after publication of the book.

Citation indexing and books

Citation analysis with respect to articles in journals has become well-developed in recent years, not to everyone's satisfaction, but at least in terms of enough established paradigms and tangible theoretical frameworks for debates to take place. The first step was the establishment, by a company in Philadelphia, now called Thomson Reuters Scientific, of a regulated and indexed database of over 8 500 journals adjudged to be the '**core journal literature**' (through the application of the so-called **Bradford Principle allocating the largest (80%) share of influence and impact to a small subset (20%) of titles** in their respective disciplines and three major scholarly fields (science/medicine/engineering, social sciences, and arts and humanities). This allowed the number of articles produced by authors from a particular country or organisation to be counted over a given period, the 'article-based market share'. Citation indexing introduced by Garfield in 1955⁵, sometimes characterised as a 'hundred million acts of whimsy'⁶, has become an industry, with several graduations of refinements in theory and practice, including journal-specific impact factors, field-specific or journal-specific citation rates of articles, self-interested responses in publication practice by both editors and authors, expansion of the number of providers, and extensive use in making international comparisons of productivity, quality and citation-based market share.⁷ Online publishing has widened evaluative practice to include new parameters such as numbers of 'hits' and 'downloads', replacing the by now archaic practice of reprint requests. Pattern studies are documenting networks of collaboration, nationally and internationally. A vigorous secondary form of scholarship called **scientometry** has sprung up around these developments.

The Panel must emphasise that it is aware of the **many and serious limitations of citation analysis**, especially its unqualified application across disciplinary areas, journal types, time frames, language groups, and geographic distributions. We favour a broadening of the approaches

to impact assessment and a deepening of scientometric theory. We have, nevertheless, examined bibliographic data based on citations, and tried to do so with circumspection and reserve.

Books have to date had only a relatively marginal share in scientometric activity. New, competing services like Elseviers' Scopus and Google Scholar have set out to **include scholarly books in their citation indexing systems**, but the penetration of the mass of published works is still far from complete.⁸ Thomson Reuters Scientific is able to measure **citations of books in journal articles**, and this is a rough measure of the impact of books on 'literature'. **Book reviews in journals** are also important qualitative indicators. **Book sales, re-printings, follow-up editions and translations** are all additional indicators that are in theory accessible from publishers' records, but are understandably not readily released for public quotation.

The recent advent of **e-books** (still mostly commercial rather than full-text free online) promises to change this picture, at least for the (increasing) segment of the industry that undergoes transformation in this way.⁹ Citation indexing of e-books (or of printed books to which citation indexing services can gain electronic access) may gain enough momentum in the near future to become a part of general bibliometric practice.¹⁰ Apart from changing the economics and consequently the scale of scholarly book publishing, the surprising finding by a (small) number of publishers that print sales increase substantially in association with open access models for e-versions of the same publications, shows that the future of books, and their scholarly impacts in the digital age, cannot yet be forecast with any certainty.

As mentioned above, Thomson Reuters Scientific 'Web of Science' (ISI) is the 'industry standard' for scholarly journals, but in this well-defined domain it remains selective, North-centred, and of limited usefulness for the social sciences and humanities. While the advent of Scopus and Google Scholar has broadened the field, and brought in (some) books and collected works as 'granters of cites' as well as 'recipients of cites', has provided some databases that in one or the other way offer a (generally still inferior) alternative to the Thomson Scientific Web of Science⁸, **there is still, unfortunately, nothing as well-defined as the journal-focused system that properly includes, or even concentrates on books as 'valid items of the scholarly literature'**. This can be ascribed to the absence of generally accepted criteria which could define certain books as having 'scholarly status', and others not. This Report sets out to assist in this definition, and to establish well-founded criteria that if generally accepted,



and implemented by the book publishing industry, would enable citation indexing to become applicable to the whole scholarly literature and not just to one part of it, as at present.

ISI citations generally correlate well with peer review judgments¹¹; using three or so methods of citation count instead of any one of them improves reliability¹², but does not improve the validity, which is compromised because it depends on a set of normative assumptions, the critical one being what exactly it is that a given citation represents. A large number of citations by unrelated authors certainly indicates that the work in question is visible, but this may be either **positive** (usually a recognition of an important and relevant antecedent discovery or argument) or **negative** (a finding or argument later found to be incorrect or disputable). Certainly, even a 'positive citation' in the above sense is not necessarily a considered judgment of quality, of 'recognition-worthiness' or of primacy in the field (although it often is). Citations are in fact often used as **boundary markers**, or 'exemplars', to indicate knowledge of the terrain or to refer readers space-efficiently to an entire sub-field of knowledge or scholarship. Thus Thomas Kuhn's 1962 book still tops social science lists of '**most cited**', but is manifestly more cited than read. In the social sciences, citations as commonly signify disagreement as they do agreement; they may even signify exemplary error! And then there is the well-recognised phenomenon of the high quality but poorly cited paper.

The best that can therefore be said for citation counts is that they signify 'relevance' to the argument at hand. In other words, we do not always cite a paper because it is good, but rather because it suits the rhetorical flow of the argument we are trying to make; it does not necessarily signify quality. Direct judgment of quality is still at the heart of the issue of recognition; it is quality, not quantity which elicits longer-term recognition.¹³ While the two are usually correlated, it is quality that is decisive: once we know the quality of physicists' research, we need not know how much research they have produced to predict their 'eminence'. This is, really, what common sense tells us. But it brings us back inescapably to **editorial discretion and peer review as the cornerstones of quality assurance in 'the literature', be this in the form of a journal paper or that of a book**.

Citation impacts of monographs versus journal articles

In this section the question is addressed as to the visibility and impact of scholarly monographs (and chapters in collected works to a lesser extent) when compared with journal articles. Do scholarly monographs,



for example, receive more recognition – in the form of citations – than the average journal article? Are these differences, if they exist, similar across scientific disciplines or are there fundamental field differences?

Monographs and journals in terms of citation rates

A number of studies over the past 10-15 years have shown that books have a higher visibility (as indicated by **citation rates**) within the scholarly community than the average peer-reviewed journal article. Most of the studies have focused on the social sciences and humanities – where monographs are valued particularly highly – but a few studies in other disciplines, for example, ornithology, have made a similar point.

In a comprehensive study of the **bibliometric performance** of the humanities and social sciences, Nederhof has presented a long list of studies that have shown the clear importance of publications in edited volumes and monographs in the humanities and social sciences.¹⁴ In particular, but not only, in the socially oriented disciplines and many humanities fields, many departments and scholars have derived an important share of their citation impact from publications outside indexed ISI source journals.¹⁵⁻¹⁷ For example, in a study in the field of sociology, books were cited three times more often than articles¹⁶, a ratio similar to that obtained in economics (see Table 4.7).

Table 4.7: Output and citations impact of six British economics groups

Type of publication	N	%N	C	%C	c/p
Articles ISI	140	27	133	57	0.95
Articles non-ISI	53	10	14	6	0.26
Chapters	58	11	19	8	0.33
Books	13	3	41	18	3.15
Other	260	50	27	12	0.10
Total	524	100	234	100	0.44

Note: N = number of publications; C = number of citations; c/p = citations per publication



Books were found to be frequently used as a source in older (pre-ISI) citation studies of the social sciences and humanities; in the social sciences, references to books and monographs varied between 31% (education) to 62% (sociology), whereas books were often cited much less in chemistry and physics (5%–8%).¹⁵ Only 1% of cited items in high-energy physics referred to books, as opposed to 15% (psychology), 25% (economics) and 40% (sociology) in three social sciences.¹⁸

Yet another study of research publications in literary studies in the Netherlands showed that 67% of the citations went to books, 7% to chapters, while 26% went to journals.¹⁴ For Anglo-Saxon journals these percentages were, respectively, 66%, 15% and 17%.¹⁹ In older studies in the humanities, a high percentage of references concerned monographs or books: 60% (philology), 69.5% (music), and 71% (fine arts literature).¹⁵

More recently, in single-authored philosophy monographs, it was found that 70% of references were to monographs, 15% to chapters, and 13% to serial articles.²⁰ Apparently, in parts of some humanities disciplines, a traditional publishing culture dominated by monographs is still alive, as it is in parts of sociology. When all references in the 1993 SCI and SSCI databases were analysed, 64% of the psychology and psychiatry references were to periodicals, 56% in the case of business science, 49% in economics, 40% in sociology, and 35% in the history and philosophy of science, and the social sciences. Much higher percentages applied to solid state physics (85%), analytical chemistry (84%), but not quite so clearly in electronic engineering (62%).²¹ It must be remembered that the focus tends to be on recent publications in bibliometric monitoring approaches, but books and chapters tend to take longer than journal articles to reach their citation peaks.²²

When all disciplines in the social sciences and humanities are considered, journals appear to be the single most important medium for publication.^{23–27} In particular, in the behavioural sciences and economics, journal articles account for the majority of citations (see Table 4.7). There is thus a trend in which social scientists and humanities scholars are beginning to publish more often in journals, especially those that are indexed.

Single-scholar approach versus team research

Particularly in many humanities, and in some social sciences, a **'single scholar'** approach to doing research is common, mostly in the 'softer', less quantitative fields.²⁸ Characteristically, individual scholars, working



largely on their own, are engaged in publishing extensive monographs and/or single-authored articles. During 1986–1988 in Spain, only 14% of the production in the social sciences was co-authored, and only 3% in linguistics and language.²⁹ In contrast, **team research** dominates many fields of science, and many articles include a considerable number of co-authors.³⁰ For the period 1998–2000, 80%–84% of Norwegian publications in medicine and the natural sciences had more than one author, 72% in technology, 43% in the social sciences and only 14% in the humanities.³¹ It was noted in the case of Australian publications that in the early 1990s, 80% of the indexed natural and life sciences were multi-authored, 50% of those in social sciences, and 12% in the humanities.³² In bibliometric monitoring of research, it needs to be taken into account that a ‘team-oriented’ scholar tends to produce considerably more publications than a scholar mostly working alone.

In a comprehensive comparison of citations to articles and books in sociology, significant differences in **citation behaviour** were observed.¹⁶ As Table 4.8 below shows, a number of interesting patterns became evident. In addition to confirming that citations to books generally exceeded those to articles, books also seemed to generate many more citations from outside sociology.

Table 4.8: Comparative citations to books and articles in Sociology

	Citations							
Genre	N	Mean	SD	Median	Q1	Q2	Q3	Q4
Articles:								
All Citations	1022	11.4	9.2	9	2.5	7.2	12.4	24.7
Citations within sociology	549	6.1	5.1	4	1.0	3.6	6.6	12.9
Citations outside sociology	473	5.3	5.9	3	0.4	2.5	5.3	13.6
Books:								
All citations	2652	33.2	65.2	14	4.4	10.7	21.1	95.7
Citations within sociology	699	8.7	14.9	5	1.1	3.9	7.4	22.1
Citations outside sociology	1953	24.4	51.6	8	2.4	6.5	13.9	75.1



Note: The sample includes 90 articles and 80 books cited a total of 3 674 times. Because of the skewed distribution of citations, the article and book samples were divided in quartiles (Q). The mean number of cites within quartiles is reported.

sociology asked the question: How does a journal article compare with a monograph in terms of relative impact?³³ A sample of 27 journals and 27 books published in 1985 were selected and the Social Science Citation index of ISI consulted to determine the number of citations to these articles and books between 1985 and 1989 (because books are longer than articles, articles have a larger concentration of citations per page):

- Between 1985 and 1989, the selected books garnered 1 384 citations and journals 364. The impact calculation shows that books had a significantly more impact than did journals, and
- Both journals and books did not receive many citations in the year they are published.

Why are books more frequently cited? Three factors may be significant. In terms of substantive significance, books generally encompass a broader scope than do typical articles. The subject matter may also be 'hotter' in that only marketable/topical books are considered for publishing. Books tend to be written for wider audiences, and therefore have a larger catchment of potential citers.

It is important, however, to look beyond inter-disciplinary differences and to focus on **differences within disciplines and sub-disciplines**. In a detailed study of the citation characteristics of philosophy monographs, it appeared that philosophers working in such areas as cognitive science, artificial intelligence, medical ethics, or computer studies ranked journal articles as very important, and more so than monographs.²⁰ Other philosophers interviewed in the same study had the 'traditional' view concerning books found among most humanities scholars: Books represent more sustained arguments, treatments and investigations than can be built into journal articles; most worthwhile journal articles will eventually be developed into books; worthwhile journal articles that do not develop into books *per se* will become part of books as anthologies. Except in the newer, more science-derived areas mentioned above, currency was not a great concern; 'current' publications were considered to be up to five years old, and 'recent' publications up to 20 years old.



While many contemporary philosophers, particularly those engaged in analytic philosophy, tend to view their discipline as more closely related to the natural sciences than to the humanities, their citation patterns remain typical of such humanities as literary studies and fine arts criticism.²⁰ Almost 70% of citations (over 80% if citations to articles in books are included) were to books, and fewer than 15% of citations to journal articles. Almost 55% of the citations were to sources published before 1980.

The relationship between reputation and productivity has been measured among social work researchers.³⁴ The authors devised a method to gauge **reputational standing**, using nominations from journal editors, authorship of research textbooks, and headship of research-dedicated social work organisations. Productivity was measured by numbers of published articles, numbers of books, numbers of book chapters, and numbers of citations in the social work literature. The general productivity rates were consistently proportional to reputation, but what was revealing was that reputation, beyond article and book authorship, was most strongly associated with citations in the literature and with book chapter productivity, at least for social workers. High citation rates may thus reflect an element of respect and esteem held by scholars towards their peers. Authors of collected works invite individuals to contribute chapters who they believe will add substantively to the content of the book or whose names will attract buyers and readers. Interestingly, it was observed in this study that chapter contributions were not accorded particular recognition in terms of prestige and promotions, when compared with article authorship, especially in refereed journals.

In summary, it is now widely accepted that books and chapters in collected works in the social sciences and humanities are valued highly and are recognised as essential modes of dissemination in these fields. Books in the social sciences and humanities generate on average three times more citations than journal articles in these fields. Interestingly enough, at least one study suggests that more citations to books originate outside of the discipline in which the book was published (in this case sociology) than is the case with citations to journal articles in that field. Citations to books take longer to register (usually very little within the first two years after publication) and have a longer active citation life. However, there is some evidence that citation 'behaviour' within sub-fields of the social sciences (e.g. cognitive science) demonstrate patterns more similar to citation behaviour in the natural sciences. At least one study has found a clear positive relationship between book citations and ascribed scholarly reputation.



Analysis of citation rates of South African monographs

In this section citation rates for South African monographs submitted to the DoHET for subsidy between 2001 and 2006 are reported. The titles of all 389 monographs were searched in Google Scholar during November 2007, and the total number of citations for each monograph recorded. During analysis, it was decided to exclude monographs that were published in 2006, given that the period between publication and the Google search was too short for the 2006 titles to be optimally cited. The citation profiles produced for Google Scholar were therefore based on a total of 332 monographs which had been published between 2001 and 2005. The results presented in Tables 4.9 to 4.12 show that 170 of these 332 monographs received citations in Google Scholar.

Table 4.9: Monograph citations in Google Scholar, by year of monograph publication (2001-2005)

Year when monograph was published	Number of monographs	% of monographs cited in Google Scholar	Average number of citations received (Self-citations incl.)
2001	78	53%	12.64
2002	79	56%	8.11
2003	54	52%	8.85
2004	63	49%	7.81
2005	58	45%	3.69
Overall	332	51%	8.47

Table 4.10: Monograph citations in Google Scholar, by broad field of monograph (2001-2005)

Broad field of monograph	Number of monographs	% of monographs cited in Google Scholar	Average number of citations received (Self-citations incl.)
Engineering sciences & applied technologies	12	33%	1.92
Health sciences	6	36%	1.00
Humanities & arts	147	37%	2.90
Natural & agricultural sciences	42	67%	22.31
Social sciences	125	65%	11.35
Overall	332	51%	8.47



Table 4.11: Monograph citations in Google Scholar, by location of monograph publisher (2001-2005)

Location of monograph publisher	Number of monographs	% of monographs cited in Google Scholar	Average number of citations received (Self-citations incl.)
Foreign	179	61%	11.73
South African	153	40%	4.65
Overall	332	51%	8.47

Table 4.12: Monograph citations in Google Scholar, by classification of South African publishers of monographs (2001-2005)

Classification of monograph publisher	Number of monographs	% of monographs cited in Google Scholar	Average number of citations received (Self-citations incl.)
Commercial Publisher	81	61%	4.06
University Press/ Publisher	34	59%	6.29
Science Council	10	80%	11.90
Research Institute/ Association/ Society/Museum	12	17%	0.42
University Institute/ Centre	16	25%	2.81
Overall	153	40%	4.65

The search in Google Scholar for citations of the 332 South African authored monographs in our database showed that just over half of these books received citations, with an average citation rate of 8.47. The earliest titles (2001) received on average 12.64 citations. Monographs in the natural sciences received the highest average number of citations (22.31), followed by monographs in the social sciences (11.35). Monographs published by a foreign publisher received on average more citations (11.73) than did those published by a local publisher (4.65). Amongst local publishers, books that were published by a science council received the highest number of citations (11.90), followed by titles from university presses (6.29).



A small sample of 53 monographs was subsequently selected from the 332 monographs listed in the database of scholarly books compiled for this study, and subjected to more in-depth citation analyses. For each of the 53 monographs the following was determined (Tables 4.13 and 4.14):

- Whether or not the monograph was cited in a **book in Google Scholar** – if cited, the number of citations received in books together with the number of self-citations was captured;
- whether or not the monograph was cited in a **journal in Google Scholar** – if cited, the number of citations received in journals as well as the number of self-citations was captured; and
- whether or not the monograph was cited in the **Citation Index of the Web of Science (ISI)** – if cited, the number of citations received in ISI journals together with the number of self-citations was recorded.

Table 4.13: Monographs cited in books and journals in Google Scholar and in the ISI Citation Index, by broad field of monograph (2001-2005)

	% of monographs			
Broad field of monograph	Number of monographs	Cited in books in Google Scholar	Cited in journals in Google Scholar	Cited in ISI citation index
Humanities & arts	20	45%	50%	40%
Social sciences	18	50%	61%	72%
Other sciences	15	40%	63%	53%
Overall	53	45%	55%	55%

Table 4.14: Citation profile of monographs cited in books and journals in Google Scholar and in the ISI Citation Index, by broad field of monograph (2001-2005)

Broad field of monograph	Number of monographs	Average number of citations received (self-citations incl.)	Average % self-citations
Monographs cited in books in Google Scholar			
Humanities & arts	9	2.78	0%
Social sciences	9	2.22	38%
Other sciences	6	2.33	51%
Overall	24	2.46	27%
Monographs cited in journals in Google Scholar			
Humanities & arts	10	7.90	12%
Social sciences	11	8.09	37%
Other sciences	8	24.00	48%
Overall	29	12.41	31%



A select subset of 53 monographs from the monograph database was subjected to more detailed **citation analysis**. The analysis revealed that these books received the highest number of citations (on average) in journals in Google Scholar, followed by journals in the ISI citation indexes, and lastly by books in Google Scholar. Books from the natural and health sciences received the highest average number of citations in journals in Google Scholar (24.00) and the ISI web of science (18.13).

A note for comparison on the international visibility of South African journals

The discussion in this section has been largely devoted to a comparison of the **'visibility' of monographs** in general when compared with journal articles. The international literature reviewed suggested that monographs on average recorded more citations than journal articles in the social sciences and humanities. The citation analysis of South African monographs in the previous section also revealed that the majority of these monographs were cited in international databases (Google Scholar and ISI Web of Science) and that these citation rates were quite substantial.

But how visible are articles in South African journals? In 2006, CREST participated in ASSAf's comprehensive study of scientific journals in South Africa. Its contribution in that study consisted of an in-depth analysis of the **bibliometric profile of South African accredited journals** and how they 'performed' in terms of various measures as far as international visibility is concerned.³⁵ The concluding findings in that study are quoted below:

"Most SA journals play a modest role in world science. Publications from the more marginal scientific countries in the world generally take (much) more time to attract sufficient numbers of citations from the international scientific literature (if any). Hence, in order to account for these differences, a new measure of journal impact was adopted, based on an extended citation window of eight years (compared to more common IF-measures based on two-year and five-year citation windows) and the use of two consecutive citing years (in this case, 2002 and 2003), in order to reduce the possibility of large yearly fluctuations. The new measure is referred to as the Composite Extended Journal Impact Factor, and may be useful in countries like South Africa which have relatively large research journal systems with limited penetration of the 'Bradford barrier' to international databases, such as the ISI."



Of the nearly 225 South African journals submitted to the CWTs-database, only 107 journals received one or more citations during the interval 1994-2002, while only 45 of these journals received 25 or more citations over this period. This in itself raises a large question mark about the international visibility (or lack thereof) of the majority of South African journals.

As far as the first subset of journals (107) is concerned, two significant findings were recorded. First, only six out of those 107 journals (all ISI-journals) recorded an impact factor of higher than 0.5. Overall, the results are disappointing with the vast majority of these journals generating impact factor scores of lower than 0.35. Second, if one ignores the six ISI-journals in the highest impact factor interval, the remaining journals produce a very 'confusing' picture. Many of the SA ISI-journals fall in the low-impact factor categories, with some – such as *Bothalia*, *SA Historical Journal* – generating extremely low scores. Conversely, a number of non-ISI journals recorded moderate scores (between 0.4 and 0.5). These journals – for example *Concrete*, *African Journal of Range and Forage Science*, and the *South African Journal for Enology and Viticulture* – could make a strong claim (and certainly a stronger claim than some existing SA ISI-journals) for inclusion in the ISI.

If one focuses on the 45 SA journals that recorded 25 citations or more over this period, a relatively more positive picture emerged, with a large proportion (38%) of journals exhibiting what can be referred to as an 'international' profile. And, perhaps somewhat surprisingly, the five South African arts and humanities journals that generated significant citations all fell in the high international category."

The bibliometric analysis of SA journals conducted in 2006 thus revealed a very differentiated picture, that must be borne in mind when considering further the importance of scholarly books and collected works. There is a relatively small cluster of South African journals (both ISI and non-ISI, mostly in the natural and health sciences, but also in some social sciences and humanities) that have 'acceptable' impact factors, have recorded moderate-to-high citations from non-South African authors, and generally present an **'international' profile**. At the other extreme, there is a substantial cluster (an estimated half of all accredited South African journals) that do not have any international visibility: articles in these journals are not cited outside of South Africa and the production of content in many of them is dominated by one or two institutions and in some cases by the same institution (or department) that publishes the journal.

Recommendations arising from this Chapter

The Panel recommends that apart from the requirement for independent peer review and the application of the typological criteria proposed in Chapter 5, public policy in respect of the publication of scholarly books should also be based on an additional set of parameters:

- No systematic distinction should be made between scholarly books published or co-published in South Africa and those published in foreign countries.
- Doctoral dissertations should not be categorised as 'scholarly books' unless they fully conform to one of the type categories proposed in Chapter 5;
- 'Advanced textbooks' or 'professional handbooks' should also not be categorised as scholarly books unless they fully conform to one of these type categories;
- General (or undergraduate) textbooks should not be regarded as scholarly books.
- The minimum size/scope of a scholarly book should be expressed in words and not in (final printed) pages; a threshold of 60 000 words is proposed, subject to the discretion of legitimately identifying exceptions where an extended analysis or argument and its evidential development has been achieved in a smaller word-frame.
- The weighting of a book relative to a journal article should be upgraded, to regard an entire book of at least 180 000 words as having a value 10 times that of a single journal article, one of 120 000 words as having 7.5 times that value, and 60 000, five times, in proper recognition of the special scholarly contribution of book-based publications that conform to one of the four proposed types.
- The rules of fractional apportionment of earned sub-units to the (South African) institutions of contributing authors should be applied as for journal articles.
- The approach to scholarly books taken in this Report could usefully be taken as a point of departure in any approach to the evaluation of conference proceedings.

(The case for this set of policy-directed recommendations has been made in the various chapters of this Report, drawing partly on the annual reports of the Research Outputs Evaluation Committee of the DoHET and partly on the examination conducted by the Panel itself. As in the case of the recommendations made for journals in the preceding ASSAf Report, our recommendation presented above makes the case of regarding local and 'international' scholarly books as having equal merit, and other reasons have been presented elsewhere in this Report.



While doctoral dissertations are by their very nature monographic, they are unlikely to meet the proposed descriptor of such a typically senior type of scholarly book, yet the above proposal allows this to be recognised in exceptional circumstances. The proposed typology for scholarly books may be useful in distinguishing between some 'advanced textbooks/handbooks' in that the requirement for an original and extended 'new synthesis' in a work at hand will need to be satisfied in order for it to be categorised as being scholarly rather than purely education- or training-directed, which is what undergraduate textbooks are considered as being.

The issue of the minimum length of a book under public policy is a vexed one. Our suggested inclusion threshold parameter of 60 000 words is based on the explicit incorporation in the recommended typology of scholarly books of the notion of an 'extended' study or the exploration of a 'large-scale' topic in such publications. Exceptions can and do occur but will be recognisable in context. This begs the question as to where peer-reviewed scholarly reports which are not published in journals should be placed in public policy terms; we cannot suggest a solution for this at this time, as it is not strictly in our remit. Attention will, nevertheless, have to be given to this anomaly.

The related issue of the weighting of books in relation to journals can also be dealt with in terms of the recommended typological categorisation of scholarly books, and our proposals for their quality assurance. Our proposal is non-linear because of the 'threshold effect' of an extended scholarly work, and the incremental effect of greater length beyond that threshold. Since chapters in the collected works will be required to be individually reviewed by appropriate peers, as well as subjected to review as 'components of the whole' by editors and (in one type) co-authors, there is no reason to see them as having intrinsically less value than individual journal articles. The panel, nevertheless, prefers the idea, consonant with its general view of books as being single, major contributions to the literature, where chapters are parts (fractions) of whole books, and do not intrinsically have a 'life of their own'.

We believe that the typological approach to scholarly books developed in this Report can readily be used as a starting point for an approach to the evaluation of scholarly conference proceedings; there is convergence in the practice of intense workshops leading to the eventual production of scholarly collected works, and conferences which are so designed and organised that they lead to a book of conference proceedings that can conform to the third or fourth type of scholarly monograph described.

It is also clear that there needs to be transparency on the part of the DoHET in respect of its assessment of submitted books and collected works, at minimum at the level of feedback to institutions and authors.)

The Panel further recommends that the editors of South African journals should endeavour to commission post-publication (peer) reviews of any scholarly books published in their areas of focus in South Africa, as soon as possible after their publication.

(It is evident that as much connection as possible between the journal- and book-subsystems of the scholarly publishing spheres should be sought, to maximise the beneficial impacts of the two complementary forms of knowledge dissemination).

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CHAPTER 5

Conclusions and recommendations for a strategically enhanced role of scholarly publishing in books in and from South Africa

The problems this Report seeks to address are deeply embedded in the notion of scholarship, and its translation into benefits at the levels of individuals, particular groups, and the entire society in general.

In the preceding Chapters, we have moved from the general to the particular. We have noted the development of an entirely new world of publishing emerging as a result of the electronic revolution, which we have explored in order to understand it and to appreciate its implications in broad terms. In this context, we have examined the nature and significance of 'scholarly books' – what they are, why they are important, who makes use of them, and to what extent. We have reviewed our publishing industry in respect of its strengths and weaknesses, and have tried to understand these and find ways to address the identified problems. We have found that existing mechanisms for evaluating the research contained in books are mostly weak, often out of date and inconsistent, and need to be revamped.

Against this background, we have examined each of these dimensions historically and in the present moment, and made recommendations in each area with the hope that these may guide our intellectual and publishing community towards a new appreciation of scholarly books, their production, consumption and evaluation.

We now continue our Report with a Chapter that concludes that:

- while we need to embrace 21st century changes, scholarly books remain and will continue to be, important for a variety of reasons;
- our publishing industry should be producing these books on a larger scale, and provided with a supportive framework to enable it to do so;
- scholarly books should be made into a much more significant part of academic life than is presently the case; and
- our cumbersome, inappropriate and outdated evaluation mechanisms need reform.



In this Chapter, which is deliberately modelled on the analogous chapter of the preceding ASSAf Report on research publishing in journals¹, we take up the challenge of describing the above conclusions, and consolidate the strategic recommendations put forward in previous Chapters.

We start with a serial consideration of the assumed individual **perspectives of important stakeholders** in the field, building up from this a defining set of aggregate strategic recommendations that can most benefit scholarship in the South African system of innovation, and our society and polity in general. We believe that this approach will allow stakeholders first to identify their own interests and objectives reflected in our analysis, and then to trace the path to the final recommendations where the interest and objectives of ALL stakeholders have been subsumed and prioritised, contradictions addressed and minimised, and the whole set of issues woven into a common framework for the common good.

The stakeholders who will be considered separately in the first phase of this concluding analysis are the following:

- A Researchers at higher education and other institutions**
- B Direct and indirect funders and supporters/quality assurers of research**
- C National beneficiaries of research**
- D Editors and publishers of local research journals**
- E Analysts and evaluators of research and development (R&D) activity**
- F Learners and teachers at South African schools**

A Researchers at higher education and other institutions

This is a sector which sees scholarly publishing as a 'core business', and has a tremendous stake in the 'literature' – the ceaselessly growing number of knowledge sources, old and new, and the key outlet for the publication of one's novel ideas, original findings, and tangible contributions ("outputs to give self-worth and reputation, to achieve desired outcomes and to have an impact"¹). It is especially in advanced research development and the maturation of **fully developed concepts or viewpoints** that books as monographs and collected works are significant, something which is true not only in the traditional 'bookish' disciplines in the humanities and related fields, but across a wide spectrum of other disciplines, as a characteristic and valuable approach to enquiry and conceptual integration or synthesis.



The '**book literature**' (what has been published in reliably peer-reviewed and editor-approved publications) is therefore a large and significant presence in the lives of many scholars and researchers, whether based in higher education institutions or in other kinds of research-intensive organisations, public or private. From their perspective, it must be possible to:

- publish large-scale enquiries, developed by individual scholars or by groups of cooperating scholars, in books that are respected for high standards of editorial discretion, peer review and accurate presentation; and
- reach the largest possible readership (preferably everybody who matters to the authoring scholar), in order to achieve the same five core functions of publication described by Roosendaal and Guerts², namely those of registration, certification, making aware (inviting collaboration), archiving and reward-seeking.

One cannot overemphasise the importance to the broad scientific enterprise of publication of research in the kinds of extended forms represented by monographs and carefully assembled collected works. Journals typically produce (by analogy to prose fiction) '**short stories**' which put one or two new elements of knowledge into place, but it is rare that substantial '**novels**' can be included in their typical space-limited formats. Recently, many journals have begun to address this deficiency by placing assemblies (usually up to six to eight items) of guest-edited, short authoritative **reviews**, as special features inserted into the normal run of diverse accepted articles. Even the best of these are limited in their synthetic value by their context and format. Only the extended book format is suited for the fully realised exploration of many important topics, and we argue that in an age of enforced disciplinary super-specialisation, it is irrelevant whether this is undertaken by one scholar or a group of scholars working closely together under the guiding hand of an authoritative editor(s).

The authors of the preceding ASSAf Report alluded to a fundamental and practical aspect, in relation to journals, of individual articles standing on their own in a universe of other articles (as in a large contemporary repository or searchable cyberspace), as against their being regularly read or browsed in issues of a journal devoted to different aspects of one disciplinary field. While repositories are easily searchable through key words, and enable many similar articles to be traced along with a single target item, only journals regularly contain an assortment of current articles, grouped according to the topic/focus area of the



host journal, permitting the habit to be developed of **browsing laterally through proximate articles** that may contain keys to the opening up of methodological or conceptual *cul de sacs* in research projects otherwise anchored only in a particular topic's habitually narrow window of ideas. A recent objective examination of citation practice in open access, including retro-digitised, journals has shown an unexpected contraction of the total number of different citations employed by authors, pointing again to the likely importance to **creativity** of the browsing function historically associated with print journals.

We believe that this insight provides support for a key role of books as monographs or collected works, in providing potential for **new conceptual syntheses** that has both adequate 'space-to-argue', and interactive mechanisms of drafting and editing. This relates also to new insights into the nature and role of reading, and the peculiar advantages in the development scholarly skills that are generated from 'deep immersion'.

It is a notable fact that **citation indexing and analysis** has so far not been systematically applied to scholarly books, excepting for the important parameter of counting the number of times that particular books are cited in journal articles (see Chapter 4); there is no Bradford Principle here, and no basis for establishing one, other than perhaps through such journal citation rates, or some kind of publisher accreditation. This is a significant issue in the universality of 'the (scholarly) literature', a matter we will take up again later.

The ASSAf Report on South African journal publications highlighted the importance of the issue of 'visibility' of research/scholarly publications. In a haystack of hundreds of thousands of items, the proverbial individual needle must be seen by as many of the people to whom the author(s) is speaking, both internationally and locally. In the case of journal papers, **global visibility** is enhanced by a combination of:

- appearing in internationally listed/indexed journals;
- publication in high-profile/impact/circulation multi-disciplinary journals;
- inclusion in widely read, focused, mono-disciplinary journals with large numbers of articles; and
- e-publication in open access mode, in journals or repositories, amenable to intelligent search and harvesting, by a wide variety of users.

Local visibility is often an important objective for researchers with strong local developmental agendas, or for those that effectively represent the richness of local social and natural diversity. It is achieved by publication in high-quality local or regional journals, in print or e-mode of publication.



Publishing one's work in books, either as monographs or collected/edited works should in principle follow the same or similar guidelines for **enhancing visibility**, both internationally and locally/regionally, through a combination of:

- appearing in books published by **international or national, high-profile publishers, or by such publishers as co-publishers with local publishers**;
- publication in **collected works edited by some of the foremost scholars in the field** concerned, whether drawn from the whole world or from a particular nation or region;
- publication in **dual print-for-sale and electronic mode**, the latter either as open access (often enhancing print sales) or through bundled licensing arrangements.
- formal **post-publication review** by an authoritative scholar in a high-profile journal.

These guidelines already operate more-or-less generally in international book publishing. What then does the research community in South Africa require of the national publishers of scholarly books? From the specific and prominent perspective of this group of stakeholders, one could summarise the requirements as follows:

- Scholarly books published within the country should aspire to the same **quality** as their international comparators, through best-practice and the use of a mix of both international and local editors and peer reviewers, along the lines of the models described in Chapter 1 and 3 of this Report;
- Local book publishers, besides their print versions, should provide **electronic access** (preferably in a sustainable mode as close to open access as possible) to ensure the widest distribution of potential readers and users.
- Locally published books should provide the **enrichment features** that give them their special value as extended, large-scale works described in Chapter 1, namely the achievement of authoritative new conceptual syntheses;
- Locally published books should seek some form of **indexing in international databases** in order to enhance their impact, make themselves amenable to bibliometric analysis; and
- Local publishers should seek **post-publication reviews** in prominent international and local/regional journals.

Finally, the issue of the **accreditation system of the DoHET³** will need to be addressed with respect to book-form publications. The accreditation step in respect of every single research publication, over which the



DoHET has complete control, feeds decisively into the policy frameworks of other organisations such as the Council on Higher Education/Higher Education Quality Committee (CHE/HEQC) (in terms of its functions of quality assurance of research and postgraduate training at higher education institutions), the National Research Foundation (NRF) (for general grant-making and bursaries at the same institutions), the Department of Science and Technology, the National Advisory Council on Innovation (NACI) and the scientometric compilers of annual S&T indicators (as one of the key determinants of output units), and the higher education institutions and science councils (in terms of internal planning and resourcing policies and reward systems), not to mention the publishers themselves. In this sense, the accreditation function is critically important for the entire **national system of innovation (NSI)**: it has to be credible, transparent, well-administered and generally promotive of higher standards and greater utility and significance, nationally and internationally.

As in the institutional accreditation models of the CHE/HEQC, a **developmental approach** to the accreditation of scholarly books requires implementation through the acceptance of new criteria for the recognition of specifically scholarly books, and adoption of best-practice guidelines by South African (and perhaps also international) publishers, that can meet the needs of ALL the users of the system as listed above. The present **accreditation model** operated by the DoHET for book outputs is one where the Department, having promulgated relevant policy and criteria, on the advice of its annually appointed Evaluation Committee makes decisions on the accreditation of individual items submitted by higher education institutions. Shortcomings in policy interpretation and other operational factors have given rise to the commissioning of this Report by the Academy.

It is obvious that the important stakeholders in the system need jointly to contribute to the design of a robust, accountable and effective accreditation system for scholarly books that satisfies their individual but mostly converging requirements to the greatest degree possible; it is also obvious that the present system does not fulfil its basic function in this way.

An exploration of some of the 'deep' issues concerning the nature of scholarly books as opposed to other books, and a proposed typology

Some of the questions listed in the study brief above point clearly to ways in which the overall debate about the publication of scholarship



in different modes can be deepened, while others have a narrower or more limited context in specific policy frameworks or contexts (especially those of the **DoHET's accreditation system for research outputs of higher education institutions**³). Book-mediated publishing poses an important question as to the **universality of the concept of 'the literature'**, and allows us to explore the interface between the **'private' or personal role** of scholarly endeavours (such as satisfying a quest for understanding something through 'writing it up', conducting written dialogues with self-selected fellow scholars, and/or seeking rewards in the form of recognition and promotion) and their **'public' or communal role** (such as helping to build new conceptual, knowledge or practical frameworks of general utility in a universe of openly shared publications, correcting erroneous findings or interpretations, registering priority, and archiving or patenting knowledge). A thorough study of book publishing may also enable us to understand how different disciplines expand their systems of **canonical concepts and evidence**, and therefore the extent of **consilience**⁴ between them.

The DoHET policy framework on the accreditation of research outputs in book form, because of its large resource implication for higher education institutions, tends to dominate debates which should be focused on more **fundamental issues concerning the nature of sound scholarship in South Africa**. Monographs ('the Big Book') are seen as such important indicators of scholarly maturity in the humanities and some social sciences that promotion and other recognition and rewarding policies and practices at universities are heavily dependent on them. They vary in substance from extended reports of time spent 'crawling with a hand-lens on the distant frontiers of knowledge' to powerful and sustained displays of **original scholarly/disciplinary authority** over matters of central importance to most of humanity. There are many examples, with *Das Kapital* by Karl Marx being perhaps the most classical in nature, affecting as it has done the entire subsequent history of the twentieth-century world, and still highly relevant in many ways today.

In the natural sciences and their applied versions such as engineering, agriculture, medicine, etc., monographs by authors (usually with significant publication records in the best journals in their fields) may through extensive review and deep, original understandings succeed in creating a **new synthesis which has a major effect on the whole field** concerned. (Linus Pauling's *The Nature of the Chemical Bond* would be a good international example, as shown by the following extract from the covernote of a recent edition: "*Pauling's ensuing program of research would result in a remarkable series of landmark publications that*



revolutionised the scientific world's conception of how atoms join together to form molecules. In 1939 Pauling's ideas were bundled into a book that was uniformly recognised as an instant classic. And in 1954, twenty-eight years after his first fateful trip, Pauling would return to Europe to receive the Nobel Prize for Chemistry, awarded for 'research into the nature of the chemical bond and its application to the elucidation of complex substances.'"

Unlike the prevailing situation in the humanities, the emphasis in the natural sciences on journal-mediated publication is so pervasive that outstandingly important monographs are sufficiently rare to be hardly significant in recognition and reward frameworks. It is an issue worth debating whether outstandingly productive scientists should not be encouraged to write books in which their knowledge and insights could be 'bundled to become instant classics'; we will return to this idea later in this Report.

Monographs as described above, in both the human sciences and natural sciences, can be regarded as (often) **substantial events** in the otherwise smoothly incremental progression-curve of widening and deepening human knowledge and understanding, contributions that require more space and time than do journal articles to convey their particular original contribution to scholarship. The fact that they are so often the work of **individual** (or perhaps two or three closely collaborating) **scholars** needs some interrogation, however. Can one simply assume that the particular intellectual mountains that have to be climbed cannot easily be climbed by teams or crowds, however talented? That would be surprising, since the **age of hyper-specialisation** has made it less and less likely that one person can command enough knowledge and experience in a central problem area to make the 'big synthesis' on his or her own, in which case the job would be best done by a group (small or big) of individual scholars who through their contributions (chapters) to a 'collected work' could succeed in taking a whole field forward in a quantum leap, analogously to that achieved by a traditionally successful monograph.

In principle, one might want to see that the contributions to such 'poly-graphs' are preferably **iteratively re-drafted to consensus** by the collaborating authors concerned, ideally under the supervision of an editor commanding enough respect from the contributors to make this intrinsically difficult process work. Alternatively, the device of a **preceding conference or workshop** could ensure that individual authors were aware of the need to develop their own idiosyncratic notions to take

the well-founded notions of others into account. More problematically, the synthetic effect could be left to be achieved in the minds of readers who take the trouble to traverse all the chapters in which the individual expert authors, carefully selected by the same kind of authoritative and respected editor, have provided their **primary texts published without taking the contributions of the other authors into account**. In both cases, the resulting book may be a significant contribution to scholarship in the field concerned, and sometimes even in other fields, as most scholars who wish to sample the wisdom to be had in fields other than their own, traditionally do this best through a sustained and well-ordered exposure to the best thinking in that field, i.e. through immersion in a book rather than through grasping (usually desperately) at the focused and fragmented content of a series of single journal articles.

We must emphasise that the practice of publishing **mere compilations** of invited contributions, many of them duplicating or recycling already published journal articles, is a far cry from the kinds of genuinely scholarly collected works described above. We are concerned in this Report with monographs and collected works that specifically set out to bring **new insights and conceptual frameworks to 'the literature' in extended and fully worked out treatments**. We are not saying that review articles in scholarly journals cannot also achieve these effects, but their authors are rarely accorded the space to deal with their topics at anything like the depth of focus of scholarly books. The use of books to address particular topics or questions may be common in certain disciplinary areas, and rare in others, but the underlying value of the extended contributions is usually the same.

Journals are much more than repositories of individual articles, any one of which may or may not be immediately of interest to a particular scholar. Recent analyses of citation practice in the age of increasing online journal publishing and retro-digitisation of journal content, have revealed a surprising trend towards concentration of cited items (and of more recently published items) in the aggregate bibliography of new articles in the 'literature', when it was expected that bibliographies would 'open up' to the availability of more information from past, and much more diverse publications.⁵ The authors speculate that **direct browsing of proximate articles** in journals may contribute much more to the 'expansion of options' explored by scholars for new ideas and consequent bibliographic sources than was previously realised. (This, incidentally, was one of the arguments put forward in the ASSAf Report on journal-based publications for the retention in future electronic article-publishing systems of edited discipline- or topic-focused periodical issues that encourage and facilitate this kind of browsing, enhanced by value-adding features like editorials, news-and-views, book reviews, etc.¹).



This valuable '**proximate effect**' of chapters or articles published together is very likely to be operative in generating the impact of the two kinds of multiply authored collected works already described above. It may even lead one to suggest that some collected works may be valuable even if they do not create a 'new conceptual synthesis' of knowledge in a field as a whole, but rather by significantly increasing the likelihood of creative proximate effects in a large number of readers from within the field, or from without. Deliberate design of content to bring **inter- or transdisciplinary treatments** of particular topics together in one volume would enhance such benefits, as would other devices that in one way or another enhanced the 'proximate effect' of the collection concerned.

Arising from the preceding considerations, we now put forward a **typology of scholarly books**, to be tested in other Chapters of this Report, and re-considered in the last Chapter amongst our findings and recommendations:

- **An extensive and scholarly treatment of a topic by one or more scholars, largely comprising significant and original (own) research, embedded in relevant literature;**
- **An extensive scholarly exposition of the available literature on a topic, from a position of demonstrable authority, which makes a significant conceptual or empirical synthesis that advances scholarship;**
- **A collected work (book), assembled by one or more scholars in a field(s) or group of related fields, which as a planned group of individually peer-reviewed chapters by appropriately qualified authors generates a new conceptual synthesis that advances scholarship; and**
- **A collective work (book), assembled by one or more scholars in a number of related fields, in which the individual authors have noted and reviewed each other's chapters and adapted their contributions to generate a new conceptual synthesis that significantly advances scholarship.**

We argue that adoption of the above set of proposed types of scholarly books, together with appropriate quality assurance measures based on editorial discretion and multiple peer review (see Chapter 3), would permit their **operational inclusion in the scholarly 'literature'**, seamlessly with articles in peer-reviewed scholarly journals. It would also have a **normative effect** on the much less uniform models of quality assurance currently used in scholarly publishing. In addition, a number of chronic border disputes in the area could be resolved.



For example, one of the policy questions that has proved most vexing in relation to the status of 'academic books' is the position of textbooks, or, better, **advanced textbooks**, in any categorisation of publications potentially contributing to general scholarship as opposed to purely educational or training objectives. It may be taken as a preliminary position that textbooks which conformed to one of the types described above would be considered as contributory, while those that did not, would be excluded as part of 'the literature'. The key indicator would be the trouble that has been taken in the work as a whole to create a 'big new picture' or a 'big new idea' out of the component chapters.

It is nevertheless true that a clear-cut distinction between an (advanced) 'textbook' and a 'scholarly book' is sometimes difficult to maintain. It is certainly blurred in current practices of international publishers, whose interests lead them to emphasise as wide as possible an audience for each book. We have been at pains to describe scholarly books as those which speak to peers in the first place, and only in the second place to students. There is certainly a distinction between books whose prime driver is a pedagogical introduction to the main tenets of existing knowledge in an area; and those which produce an original synthesis or analysis that is noted as a contribution in its own right. Blurring occurs when this distinction cannot be drawn, when judgments drawn from one field are inappropriately applied to another, and (occasionally) when scholarly authors deliberately blur the distinction between their primary and secondary audiences in order to increase their target markets.

Another issue concerns the nature of **doctoral dissertations/theses** in the typology of scholarly books. The Panel believes that a flexible approach similar to that recommended above for 'advanced textbooks', namely that those dissertations/theses which clearly conform to the typological description of scholarly monographs would qualify (and probably be formally published in any case), whereas the great majority would not, mostly because the simple quality assurance of multiple external examination is not equivalent to the rigours of decision-making by risk-averse publishers in addition to multiple peer review in the context of formal scholarly publication. Book publication is a very tough environment, and the barriers to publication are usually much greater than is the case for journal-based publication or PhD examinations.

One of the areas considered by the Panel as worthy of research is the possibly major role in **undergraduate learning** of the incidental and unprescribed reading of scholarly books. While there is anecdotal evidence



for 'Damascus events' in the development of enquiring minds occasioned by book readings of this kind, and the great American universities are mostly committed to the inclusion of 'big book' studies in their curricula, the interplay of teaching (by 'big book'-writing scholars) and learning (by 'big book'-reading students at various levels) remains largely uninvestigated.

Thus the vexed question of the **audience(s)** being addressed by any given book is not easily resolved. To the extent that 'the literature' is the vast storehouse of existing peer-reviewed (quality-assured) original publications which scholars in all disciplines depend on for building blocks of their new investigations, these scholars and their trainees are the natural audience of scholarly books. The fact that some monographs simultaneously function as superb advanced (perhaps even introductory) textbooks, and that other works may be sufficiently accessible to give pleasure and benefit to lay readers, does not detract from the basic fact that the criterion of scholarliness must first be applied, before other benefits can be considered. *Vice versa*, books which are clearly scholarly in nature (as conforming to one of the types previously described) should be considered so even if they have large and enthusiastic additional audiences outside the scholarly community.

B Direct and indirect funders and supporters of research/quality assurers of research

Research publications are highly significant outputs of research activity, together with dissertations (qualified people), patents, technical reports and applications in society. In order to support research in a strategic way, funders have to be able to determine the likelihood that resources will be effectively and efficiently used, and that the public goods of productive research will be generated to the greatest possible extent, in the short, medium and long term.

We have argued in this Report that since **books conforming to certain specific types** are important contributors to the growth of both the global and the national knowledge and skills base, reliable assumptions as to their quality and value-added character are fundamental to any policy approach that seeks to foster the national system of innovation. From the perspective of government departments, (especially the DST and the DoHET), and that of funding and support agencies (especially the NRF, MRC and other research funding bodies), an integrated approach to the assessment of book publications is essential – no simple (and evidently incorrect) assumption of 'internationally books are good, locally published books are bad' will suffice.



Appropriate contextual value judgements are needed, as already discussed above, and the approach will need to keep pace with new developments.

C National beneficiaries of research

Two categories of beneficiaries of research that is published in books come immediately to mind: government departments and agencies that are looking for **research-based solutions** to important practical problems (whether social, technical or in some other domain), and **industrial undertakings** looking for sources of possible product or process innovation. In the first instance, the end-user does not in principle care greatly about the niceties of the research publication process or the novelty of the findings, the main concern is that the recommended solution is robust, affordable, implementable and ultimately beneficial. In the second instance, the end-user is very worried about adequate and appropriate protection of intellectual property and the solidity of the science behind the work.

Other categories of beneficiary are no less important. Research in the social and human sciences is a reliable source of **direction and good practice** for community-based and non-governmental organisations, international and national development agencies, educational institutions; and civil society at large.

It is likely that all these potential beneficiaries are best served by a national science system that recognises that publication of research in the open, peer-reviewed, scholarly literature is the best guarantor of both its quality and utility. The approach being developed in this Report is one which would allow **smooth integration of books into the largely journal-based literature**, in a framework that also allows the special contribution of book-form publications to be acknowledged.

Well-edited and accessible, locally published books can be a significant resource for the different kinds of beneficiaries mentioned above, in providing a concentrated, and well-synthesised source of information about matters of local importance.

D Editors and publishers of locally published books

We argue in this Report that **local publishing (or co-publishing) of scholarly books is an important and indispensable activity** because such books provide a channel for doing some things that journals cannot do, or can only do with much difficulty, and because books with a local or



regional focus enrich the global store of information in a way that a purely international (commercial) publishing system is not likely to achieve.

We have also argued that **university presses need to be considered as part of the core functions of knowledge-generating institutions**, justifying subsidisation as much as other core functions such as equipment purchases, buildings and facilities. Combining books, journals and other publications in a single enterprise is an obviously advantageous approach, as is the establishment of consortia, as discussed in Chapter 2.

Because both **quality and integration** into the 'literature' are such absolute requirements for such an argument, however, we believe it is important that both are addressed in an effective manner. By accepting the four types of scholarly books described in Chapter 1 as providing specifically valuable contributions, as fully equivalent to journal articles in 'scholarliness', and as worthy of integration into policy and scientometric frameworks, one would in fact combine both agendas. This would simultaneously provide a basis for best-practice and improvement, with the potential for impacts on reputation and profit (for publishers) and scholarly rewards for editors, reviewers and contributors to scholarly books.

It is our belief that the **adoption of the proposed typology** and the **associated criteria** for adjudication of the scholarly nature of books would not be particularly difficult, as they involve approaches to commissioning and quality assurance that are hardly revolutionary or impractical.

The advent of **online publishing** has significantly changed the way in which the editors and publishers of scholarly books in South Africa view their future. Costs can be greatly reduced if a decision to stop print publishing is made in favour of the electronic mode.⁵ Significant marketing gains can also be made (not only within the country), and integration of scholarly books in biblio- and scientometric systems greatly facilitated.

E Analysts and evaluators of Research and Development (R&D) activity

Increasing importance is now attached to the analysis and evaluation of research activity, in all its facets, in order *inter alia* to make judgments about the effectiveness and efficiency of the system, to identify significant trends, and to assess the need for new policy or resourcing.



It goes without saying that **indicators** can only be useful if they reflect real quanta. **Inputs** in terms of funding and human resources must be compared with **outputs** that are valid in terms of verifiable standards or criteria. For example, diverse conference presentations and student dissertations are not easy to accept as outputs because there is no agreed standard for what they ought to be. Publications in the peer-reviewed journal literature, on the other hand, are much easier to accept because:

- there is (nearly always) a quality-process standard;
- (if listed and indexed) bibliometric analysis is possible; and
- the results and conclusions can be confirmed, rebutted or built on, in the vast matrix of the published literature.

We believe that our proposals for a generally **acceptable typology of scholarly books**, and associated improvements in the assessment of their impact and specific contributions, can lead to their ready inclusion as real output quanta, of a special kind and value.

Estimates of R&D expenditure have the notorious shortcoming that they cannot readily be linked to productivity and thus yield efficiency indicators. Amongst the many outputs of research activity, peer-reviewed original publications in both journals and (truly scholarly) books are amongst the most direct and quantifiable, especially if also treated to informed bibliometric and other scientometric analysis.

From the point of view of evaluation and analysis of large research systems, there can be no doubt that the best model would be one which reflects a pervasive culture that places a premium on high-quality publication of all research and associated training that has been performed; that regards locally published research journals *and* books as potential winners, in terms of both international AND national exposure (provided that best-practice norms are observed); and that sees publication outputs as important but not exclusive forms of return on the overall investment of funds and effort, along with patents, highly skilled postgraduate qualifiers, and translated socio-economic benefits.

F Learners and teachers at South African schools

The role of scholarly books in the life and times of school-children and their teachers can at present be said to be a minimal, possibly miniscule one. That does not mean that this role could or should not be expanded with great benefit to all concerned and the nation at large. As the



perceived gap in scientific achievement between developed and developing countries widens, few things can be more important than to **make learners aware** of the fact that significant research is in fact being done and reported in South Africa, that people like themselves have worked hard to establish their research groups and activities inside the country, and that it may be possible to make a personal contribution to positioning South Africa as a major (and distinctly African) player in the modern world. Teachers obviously need to be aware of what is being done and reported in South African science and technology, in the broad sense of scientific enquiry, in order to bring this effectively to what is talked about and written up in their classrooms as project work, reading assignments and individual mentoring activities.

Few experienced teachers at any level will deny that the 'flame' present mostly latently in many of their charges is usually 'lit' through contact with well-read teachers who can transform rote-learning into inspiration, building morale and confidence through enhanced conceptual understanding and beginning mastery of how and why things happen, and how things can be measured and outcomes predicted on the basis of appropriate theory. The unpredictability of such transformations does not mean that an environment cannot be created where the probability of their occurrence is significantly raised, and this is where we reconnect with our main theme – the potential positive role of South African research publications in the huge learning and teaching system represented by the nation's schools.

Scholarly books published in South Africa lend themselves to productive use along these lines, in **school libraries** and teaching systems generally.

Recommendations arising from this Chapter

The Panel recommends that four categories of scholarly books/collected works should be regarded as being both valid and important part of the (scholarly) 'literature', in terms of best practice amongst researchers and scholars, and national policies such as the DoHET's accreditation system of research outputs produced by education institutions, and the criteria for grant-making by the National Research Foundation:

- **An extensive and scholarly treatment of a topic by one or more scholars, largely comprising significant and original (own) research, embedded in relevant literature;**
- **An extensive scholarly exposition of the available literature on a topic, from a position of demonstrable authority, which makes a significant conceptual or empirical synthesis that advances scholarship;**



- **A collected work (book), assembled by one or more scholars in a field(s) or group of related fields, which as a planned group of individually peer-reviewed chapters by appropriately qualified authors generates a new conceptual synthesis that advances scholarship; and**
- **A collective work (book), assembled by one or more scholars in a number of related fields, in which the individual authors have noted and reviewed each other's chapters and adapted their contributions to generate a new conceptual synthesis that significantly advances scholarship.**

(These categories are described and motivated in this Chapter, and have been selected because they clearly identify the main and distinct contribution of book-form publications to the 'literature' of scholarship and science, which journals are able to provide only by departing from their own special nature as periodicals featuring articles. The descriptors are normative in character, in that they encourage the kinds of best-practice that will greatly enhance quality, and generate benefits often lost in less aspirational models of book publishing. They will also provide clear demarcators between scholarly books and books serving other purposes, audiences and markets, especially useful in addressing long-standing problems encountered in the accreditation of research outputs, in recognising advanced scholarship in institutional settings, and in measuring the productivity of the innovation system through the use of valid indicators.)

We further recommend that the possibly beneficial effects of the prescribed and unprescribed use of scholarly books in both under- and postgraduate teaching and learning be studied, and the lessons learnt applied in general higher educational practice.

(The prescription of books as cover-to-cover reading materials in selected courses may enhance 'deep learning' and simultaneously foster the productive acquisition of reading habits lasting a lifetime, leading to the emergence of the kinds of scholars and scientists who understand the evolution of big ideas, and may therefore generate some of their own.)

In addition, we recommend that a wide-ranging project be initiated by the national DoHET and the provincial education authorities that will sharply increase the exposure of teachers, teachers-in-training and learners to locally published scholarly books that present some of the country's foremost scientific work in accessible form, and are effectively linked to the media.



(One of the most cogent reasons for publishing scholarly books locally is the opportunity beneficially to reach the next generation in ways that are not possible with expensive international materials; this needs to be planned in partnership mode, however, and will not happen without strong top-down sponsorship and appropriate resourcing.)

Finally, we recommend that the findings and recommendations contained in this Report be presented to key stakeholders in a series of consultative workshops, and that the outcomes and the impact of the publication of the Report be evaluated in four years time.

(This Report is making consensus recommendations that are supported by evidence and arguments presented in the various chapters. We are aware of the scholarly seniority of many stakeholders, the fluidity of the sector in commercial/technological terms, and the conviction of the authors that only consultative processes are likely to achieve the adoption of their proposals or their further exploration. We believe the present Report provides a necessary but obviously not sufficient basis for important reforms and considerable advancement of South Africa's research potential and actual performance, but joint downstream efforts will be needed, at both the widely distributed knowledge production and more focused governance levels.)

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The Consensus Panel – biographical sketches and credentials

Prof Belinda Bozzoli is Deputy Vice-Chancellor for Research at the University of the Witwatersrand, Johannesburg (Wits). Amongst many other responsibilities, she is Chair of the Board of the National Research Foundation, and also of Wits University Press. Her background is in sociology, and she is A-rated in this field. She obtained her undergraduate training at Wits and her DPhil at Sussex University in the UK. She has published or edited seven books and numerous articles, and is most well known for her book *Women of Phokeng*.

Prof Wieland Gevers (chairperson) is also the chairperson of ASSAf's Committee on Scholarly Publishing in South Africa. He holds an MBChB, first class honours, from the University of Cape Town, a DPhil from the University of Oxford and several honorary degrees. He is a Fellow of the Academy of Sciences for the Developing World. He was Deputy Vice-Chancellor responsible for academic affairs at UCT from 1992 to 2002 and a member of the South African Qualifications Authority from 1996 to 2002. He chaired the Panels which reviewed the National Advisory Council on Innovation (2003) and the National Research Foundation (2005). He has extensive experience in research publishing and chaired the Panel which wrote the 2006 ASSAf Report on **A Strategic Approach to Research Publishing in South Africa**. He has also chaired the Editorial Boards of both the **South African Journal of Science** and **Quest: Science for South Africa** magazine. In 2008 he was admitted by the President of South Africa to the national Order of Mapungubwe in Silver, and was awarded a gold medal for meritorious service from the Academy of Science of South Africa.

Dr Andrew M Kaniki is Executive Director: Knowledge Fields Development (KFD) at the National Research Foundation (NRF), South Africa. Between November 2002 and June 2008 he was the Executive Director: Knowledge Management and Strategy - NRF and also acted as Executive Director for Knowledge Fields Development, 2006-June 2008. Prior to joining the NRF, he was Lecturer of Information Studies at then University of Natal (now the University of KwaZulu-Natal) between 1992 and 1995, serving as Professor of Information Studies there from 1996 to 2002. He worked as Pro Vice-Chancellor and Acting Deputy Vice-Chancellor



(Academic) at the University of Natal from 2000 to 2002. He taught library and information science at the University of Zambia, 1981-1985, and 1990-1992, and worked as Science Information Specialist at the Engineering and Science Library, Carnegie Mellon University, in the USA, 1988-1990. He holds a BA in Politics and Library Science (University of Zambia), Master of Science – Library Science (University of Illinois, U-C), and a PhD and Agricultural Information Specialist Certificate (University of Pittsburgh).

Prof Johan Muller is Professor of Curriculum in the School of Education and Deputy Dean for research and postgraduate affairs for the Faculty of Humanities at the University of Cape Town. He is also Director of the Graduate School of Humanities. He holds a PhD from the University of Cape Town, and has degrees from Leiden University and the University of Port Elizabeth. Both his single authored monograph of 2000, *Reclaiming Knowledge*, and his co-authored monograph of 2003, *Getting Schools Working*, are highly cited on Google Scholar. His work has been translated into Portuguese and French. He has recently held visiting fellowships from the Universities of Hong Kong, Oslo and Stanford, and is currently Visiting Professorial Fellow at the Institute of Education, University of London. He sits on the editorial boards of journals in France, the UK, Singapore and the USA, as well as South Africa.

Mr Garry Rosenberg has worked in academic publishing for more than 15 years, with local and multinational companies. He is currently Director of the HSRC Press, a scholarly publisher specialising in social science and humanities research. His academic background includes advanced qualifications in literature, education and business studies.

Dr Nthabiseng Taole is Project Manager at the Academy of Science of South Africa (ASSAf). Her primary responsibility is to lead and manage the implementation of the Academy's approved projects. She is also a study director for the present consensus study *Scholarly books: their production, use and evaluation in South Africa today*, and serves on the ASSAf task team on a possible scholarly publishing platform for South Africa. She is also servicing the ASSAf peer-review panel on local journals in agriculture and related basic life sciences. Before joining the Academy, she worked as systems manager at the National University of Lesotho Library, and ICT Advocacy Manager at the Southern African NGO Network (SANGONeT). She holds a BSc degree from the National University of Lesotho, a Masters in Library and Information Science from the University of Cape Town, and PhD in Information Science from the University of Pretoria.







About the scholarly publishing programme of the Academy of Science of South Africa

A strategic approach to the improvement of scholarly publishing in South Africa

The ASSAf Report on *A Strategic Approach to Research Publishing in South Africa* was published in March 2006, and presented to both the Ministers of Science and Technology and of Education, as well as the National Advisory Council on Innovation (NACI), Higher Education South Africa (HESA), the Council on Higher Education/Higher Education Quality Committee (CHE/HEQC) and the Southern African Research and Innovation Management Association (SARIMA), amongst other bodies concerned with this important area, as producers and users of published research and scholarship.

While the Report dealt in detail with peer-reviewed research journals (periodicals), it referred to other forms of original scholarly publication (such as monographs, multi-author books, conference proceedings and technical reports) as requiring careful assessment and policy treatment along the lines worked out in detail for journals. Therefore a second study (the present Report) has been conducted by the Academy in respect of monographs and collected works, with attention still to be given to other forms of scholarly outputs.

The ten recommendations of the ASSAf Report were directed at key implementers and stakeholders, but the Academy itself was identified as the key integrative driver of a coordinated and concerted programme of implementation as it was considered unlikely that any other organisation would be in a position to do this.

The strategic goal of the Report was to help develop and maintain a vibrant national system of innovation that would contribute materially to the sustainable prosperity of all South Africa's people, in a scenario where "large numbers of lively, enquiring and enterprising people would have scope for successful careers as leaders in science-based efforts to promote the development of the whole nation's skills and resources."



The Academy has constituted a Committee on Scholarly Publishing in South Africa, comprising 14 ASSAf Members and non-Members representing a wide range of perspectives, experience and skills in relevant fields. The Committee oversees the Academy's programme, and reports to the ASSAf Council, and through the Council to the Human Capital division of the Department of Science and Technology and other stakeholders.

The Academy has also formed a Scholarly Publishing Unit, with an experienced full-time Director, which has already achieved far-reaching results:

- Establishment of a National Editors' and Publishers' Forum, meeting annually to discuss matters of common concern, and to monitor progress in the scholarly publishing programme. The Forum has adopted a consensus *National Code of Best Practice for Editorial Discretion and Peer Review*, which has been published and widely disseminated by the Academy.
- Setting up of a research panel in order to investigate optimal incentives for the editors of local scholarly journals, funded by the Shuttleworth Foundation.
- Appointment of the first two consensus Peer Review Panels for the social sciences and related fields, and agricultural and related basic life sciences, to make recommendations concerning the best utilisation of such publications in the national system of innovation; numerous further Panels will be set up once the methodology has been tested by the pilot studies, so that all presently accredited journals will be covered.
- The feasibility of a free-online Scientific Writing course system has been examined.

The most significant current project of the ASSAf Scholarly Publishing Programme is the development of a national platform for the open access online publication of the majority South Africa's high-quality scholarly journals, to be achieved as a new site for the SciELO system already well-established in South America, designed greatly to increase the visibility and impact of South African science, to enhance collaborations, and to facilitate bibliometric evaluation of the work reported.

CSPiSA Membership

Prof Wieland Gevers (Chairperson)

Prof James Bull

Dr Prins Nevhutalu

Dr Andrew Kaniki

Dr Lis Lange



Prof Linda Richter
Ms Eve Gray
Ms Gwenda Thomas
Prof Tinyiko S Maluleke
Prof Felix Dakora
Prof Jimi O Adesina
Dr Duncan Martin
Prof David Woods
Prof Michael Cherry

Prof W Gevers
Chairperson: Committee on Scholarly Publications in South Africa

Mrs S Veldsman
Director: Scholarly Publishing Unit





About the Academy of Science of South Africa (ASSAf)

HISTORY

The Academy of Science of South Africa (ASSAf) was inaugurated in May 1996 by the then President and patron of the Academy, Nelson Mandela. It was formed in response to the need for an academy of science congruent with the dawn of democracy in South Africa - activist in its mission of using science for the benefit of society.

The mandate of the Academy encompasses all fields of scientific enquiry and it includes the full diversity of South Africa's distinguished scientists.

The Parliament of South Africa passed the Academy of Science of South Africa Act, *Act 67 of 2001*, which came into operation in May 2002.

ASSAf is the official national Academy of Science of South Africa and represents the country in the international community of science academies.

Since its inception, ASSAf has grown from a small, emergent organisation to a mature and well-established academy.

OBJECTIVES

As an engine of excellence in scholarship and intellectual cooperation, ASSAf aims to be the apex organisation for science and scholarship in South Africa, internationally respected and connected, with its membership the aspiration of the country's most active scholars in all fields of scientific enquiry. The Academy enables the generation of evidence-based solutions to national problems.

RELEVANCE

The strategic priorities of the Academy are closely matched to those of the nation, focussing particularly on the need for the greatly enhanced availability of high-level human capital and an increased use of the country's best intellectual expertise in generating evidence-based policy advice that is practical and feasible.



The Academy is aligned to national policy as dictated in the White Paper on Science and Technology and the National Research and Development Strategy. It also seeks to meet other national priorities, such as the Accelerated and Shared Growth Initiative for South Africa and the Joint Initiative for Priority Skills Acquisition.

MEMBERS

The Academy's 315 Members (in 2008), are categorised into eleven science discipline categories, namely earth, economic, life, health/medical, agricultural, mathematical, physical, engineering and technological sciences, education, humanities and social sciences.

CURRENT ACTIVITIES (mid 2009)

International activities with active ASSAf participation are:

- The InterAcademy Panel (IAP)
- The InterAcademy Council (IAC)
- The African Science Academy Development Initiative (ASADI)
- The Network of African Science Academies (NASAC) (Founder Member and Vice-President)
- The Academy of Science of the Developing World (TWAS)
- The InterAcademy Medical Panel (IAMP)
- The G8 plus 5 Science Academies
- Bilateral agreements with the Russian Academy of Sciences and the national science Uganda National Academy of Sciences, and pending agreements with India and Nigeria.

National ASSAf activities to promote science in South Africa include:

- Science-for-Society Gold Medals
- Annual Symposium
- Annual Visiting Lecturers
- Sydney Brenner Fellowships
- (TWAS) ASSAf Young Scientist Awards
- Regional Public Lectures
- Partnering on joint projects with other organisations, such as higher education institutions and science councils.

Flagship projects of the Academy in scholarly publishing are:

South African Journal of Science (SAJS)

The Academy publishes the *South African Journal of Science*, a leading multi-disciplinary research journal in Africa which features a diversity of



original work by researchers throughout the country and abroad. The journal is over 100 years old, appears six times a year and is accessible online.

Quest: Science for South Africa

The Academy publishes a quarterly national science magazine *Quest: Science for South Africa* that serves as a platform for communication about scientific research done in South Africa. It showcases South African science in action and is aimed at the broad scientific community, decision-makers, the public, students, and especially the senior grades at secondary schools

Scholarly Publishing in South Africa

The Scholarly Publishing Programme is aimed at the implementation of the ten recommendations developed in the 2006 Academy Report on *A Strategic Approach to Research Publishing in South Africa*. This programme is aimed at enhancing the country's research productivity and capacity.

General Consensus and Forum Studies:

Clinical Research and Related Training in South Africa

The study aims to contribute towards building a national culture in which clinical research is seen as essential and clinical trials are widely accepted; to improve the level of funding; to ensure that the rights and safety of individuals are protected while simultaneously acknowledging the needs of industry and funders; and to promote a favourable and enabling environment in which government, public institutions, academia and industry can interact more constructively.

HIV/Aids, TB and Nutrition

In August 2007, ASSAf released its consensus study, *HIV/AIDS, TB, and Nutrition: Scientific Inquiry into the Nutritional Influences on Human Immunity with Special Reference to HIV infection and Active TB in South Africa*. The study reviewed scientific evidence relating to the influence of nutrition on the course of HIV/Aids and TB.

Committee on Science for Poverty Alleviation

The objectives of the Committee are to:

- Oversee a managed forum to assist the national mission of harnessing new developments in S&T for economic growth and sustainable development;



- Address a series of selected problem areas by bringing together, in a carefully planned, multi-disciplinary workshop mode, leading national (and some international) researchers from a variety of disciplines; and
- Generate new insights that can assist government policy-makers and others, on the basis of properly debated scientific and technological findings, in the fight to alleviate poverty in South Africa.

Consensus Study on Improved Nutritional Assessment

This study follows on the 2007 consensus report on *HIV/Aids, TB and Nutrition* and focuses on modern nutritional assessment methods, particularly tests of micronutrient status that were reliable, affordable and practically helpful. The study seeks to identify the best assessment modes to contribute to prevention and treatment of these pandemic infectious conditions in the country.

A SADC-region Forum Study on the Potential Value-added Functions that National Science Academies can contribute in relation to Universities

ASSAf is convening a workshop where existing national science academies based in the Southern African Development Community (SADC) region and representatives from universities in the SADC countries, which do not (yet) have such academies, jointly exploring ways in which academy functions may add significant value to the university system in each country and the region.

PhD Study: The National Capacity for the Production of Highly-trained, Top-quality Postgraduate Students

For South Africa to be a serious competitor in the global knowledge economy, both the quality and quantity of PhDs need to be expanded quite dramatically. This ambition to escalate the number of well-trained PhDs in South Africa raises fundamental questions about national capacity, critical partners, innovative programmes, strategic investments and cross-sectoral cooperation. A Consensus Study is planned to generate evidence-based national advice to deliver on these goals.

Study on the State of the Humanities in South Africa: Status, Prospects and Strategies: Aims to provide a detailed survey on the state of the humanities in SA; to profile the status of humanities graduates and to generate strategies that would strengthen the humanities.

Other ASSAf activities are:

Standing Committee for Science, Technology, Engineering and Mathematics (STEM) Education: Advises the Academy on critical issues pertaining to STEM education in the country.



International Best Practice on Science Education (A Regional Study):

Focuses on identifying and promoting best practices in science education (SE) in Sub-Saharan Africa to improve the teaching and learning of science.

ASSAf Committee on Biosafety, Bioethics and Biorisks: Aims possibly to establish a Committee on Biosafety, Bioethics and Biorisks to timeously develop measures to monitor new and emerging epidemics.

ACADEMY LEADERSHIP**COUNCIL MEMBERS IN 2009 - 2011:****President:**

Prof Robin Crewe

Vice Presidents:

Prof Patricia Berjak

Prof Jonathan Jansen

General Secretary:

Prof Wieland Gevers

Treasurer:

Prof Francis Petersen

Members:

Prof Hoosen Coovadia

Prof Njabulo Ndebele

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Academy of Science of South Africa (ASSAf)

ASSAf Research Repository

<http://research.assaf.org.za/>

A. Academy of Science of South Africa (ASSAf) Publications

A. ASSAf Consensus Study Reports

2009

Scholarly Books: Their Production, Use and Evaluation in South Africa Today

Academy of Science of South Africa (ASSAf)

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